The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

VOL. XLI. CHICAGO, ILLINOIS, DECEMBER 5, 1903. No. 23.

Address.

THE PROGRESS OF AMERICAN MEDICINE AND ITS RELATION TO PUBLIC AFFAIRS.*

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A brief allusion to history and to current medical literature is not without interest and instruction in the progress of medicine and surgery and their relation to public opinion and to the public service. In the determination of some such questions and matters we are forced to deal largely with the body politic. What the profession has done everywhere for the public good, and what it has accomplished even in our own country, may be in itself a sufficient answer to the political motives and aspersions, and the debauchery of science, in the name of humanity and personal rights, with which it has to contend and over which it ever has and will continue to triumph. In the cause of scientific truth and progress it is our duty to protect the people against their own ignorance and folly in matters of public health, as it is the duty of the state to make and enforce laws by appropriate legislation for the public weal. From the initiative of Mondini in human dissection in the fourteenth century to the more perfect establishment of it by the immortal Vesalius in the sixteenth, dates the beginning of the scientific study of medicine. This was the necessary fundamental step from that long period of priestcraft, sorcery and astrology, with here and there a spark of truth and light; the glowworm of the brighter day from the darker past. From that day to this, resplendent with new truths and benefits to humanity, the medical profession has contended with selfishness, ignorance and superstition in the discovery of new truths and in the enactment of every measure and law for the benefit of mankind, including every effort and measure for its own improvement, that it might the better meet the demands of humanity and a progressive civilization.

Jenner's discovery, and its application to the prevention of smallpox, has rendered the civilized world immune to its greatest plague, yet there are still anti-vaccination societies. Vivisection, generally painless, without which many of the most important truths of physiology would not be known or demonstrated, is still under the ban of much ignorance and prejudice. If these necessary acts were guided by liberal and beneficent laws, public illusions would more rapidly disappear, and "body-snatching" would only be a tradition.

One hundred years ago a distinguished English writer asked, "What does the world yet owe to an American physician or surgeon?" This is a partial answer: The first volume of medical transactions published in this country was in 1788. The first medical journal published was in 1820, and the use of American text-books was of a more recent date. Twitchell, New Hampshire, in 1805, was the first to ligate the common carotid and under most adverse conditions; Gibson, Maryland, the first to tie the common iliac; Valentine Mott the first to do it successfully (1827); Mott the first to tie the innominate, in 1818; amputated hip joint in 1824, and the first to amputate the entire clavicle, which was done in 1828, without anesthesia, of course, in four hours' time. Physick invented the tonsillotome, and was the first to apply rest in hip disease and in opposition to prevalent teaching. He was the inventor of absorbable ligatures and was a great lithotomist. In 1827, it is reported that he operated for stone on the venerable Chief Justice Marshall, who returned to his Virginia home on horseback in five weeks from date of operation.

Post and Rogers, New York, first ligated the subclavian in 1846. Deiderick, Tennessee, was the first to amputate the inferior maxilla, in 1810, and Jameson, Baltimore, the first to excise the superior maxilla, in 1820. Warren, Boston, was the first to extirpate the parotid, in 1804; Swift, Pennsylvania, the first to use extension in fractures; Harris, 1830, the first to excise the tongue; Knight, Connecticut, 1848, the first to use digital compression in the cure of aneurism; Walcott, Milwaukee, the first to perform nephrectomy, and Boggs, Indiana, cholecystotomy, while the original work of Christian Fenger will not be forgotten. The world pays its tribute to McDowell, the first ovariotomist, 1809. Joseph Pancoast was the first to operate for exstrophy of the bladder; Frank Hamilton the first to suggest skin-grafting, 1847; Bowditch, the author of thoracentesis, in 1850, and Warren of paracentesis. Professor Crosby of Dartmouth Medical College, 1838, was the first to amputate both clavicle and scapula, the interscapulothoracic amputation. Carnochan, 1858, was the first to resect the superior maxillary beyond Meckel's ganglion for neuralgia, and the recent Hartley-Krause operation on the gasserian ganglion is well known. Detmold was the first to trephine for brain abscess, in 1849. The great debt the modern world owes to the original work of Sims in gynecology needs only to be mentioned.

In intestinal surgery, the best methods of anastomosis, the Murphy button and the Connell suture being

* President's address at the twenty-third annual session of the Colorado State Medical Society, Denver, October, 1903. The introductory parts of the address relating to matters of local interest and the paragraphs concerning vital statistics, the examination of sight and hearing of school children, the appointment of a physician on the Interoceanic Canal Commission, the Tuberculosis Congress at Washington in 1905, and the organization of the National Auxiliary Committee on Medical Legislation are omitted in publication.

representatives of the class, and the more recent progressive work is chiefly by American surgeons; while we are the pioneers in appendiceal knowledge and operative work. Fitz wrote the first valuable paper on perforation of the appendix late in 1886, while the preliminary work of Barker and Sands fills an important place, and to an American surgeon belongs the honor of being the first to open the abdomen and remove the appendix, Jan. 4, 1885.

Morton of Boston was the first to publicly demonstrate ether anesthesia in 1846, but it is conceded that Crawford Long of Georgia first discovered and used it in a surgical operation in 1842.[1]

Notwithstanding the large number of public benefactors in the medical ranks, it has been a subject of comment and criticism that no portrait of a physician graces the "Hall of Fame," but we allude with professional pride and appreciation to the fact that of the two statues accorded to each state in Statuary Hall in the national capitol, Georgia recently selected, as one of the two, Crawford Long, the discoverer of anesthesia. This is the first and only state so far to justly pay a fitting tribute to a medical man for his contribution to the cause of humanity; for while vaccination has saved more lives, anesthesia has relieved more pain and suffering than any other discovery.

In American medicine we are not unmindful of the valuable original work of Gerhard, Dickinson, Parrish, Mitchell, Meigs and others, while to Oliver Wendell Holmes belongs the credit of establishing the infectious nature of puerperal fever. Dr. Nott and Dr. Charles Finlay were the first to claim that the mosquito was the bearer of the yellow-fever contagium, but the late lamented surgeon, Walter Reed, aided by Major Gorgas and Lieutenant Carroll of the medical department of the Army, in 1900 established the fact that a certain breed of mosquitoes was the inoculating agent. As a result, two striking facts are manifest in the short space of one year—one in Cuba, the gem of the West Indies, the other in Sierro Leone of West Africa, under English domination, and known, until these discoveries, as "the white man's grave." Now, with the simple application of drainage and petroleum to the stagnant, filth-breeding waters, the home of the plasmodia and mosquito, the two chief cities, Havana and Freetown, have been converted from pest-houses to pleasure resorts. One a menace to English civilization, the other to the health and commercial interests of our own country; now, under American medical investigation and the work of the Marine-Hospital Service, both safely opened to the industrial genius and commerce of the civilized world.

This is a brief and very imperfect summary of important original contributions of America to the progress of medicine and surgery, while the work of to-day excites the interest of the professional world and the pride of our own countrymen. Though the history of the "young republic" is brief, it is important and significant, and I fancy that no one would expose his ignorance by now asking, what has America done for medical knowledge and science?

But what of the future? The elder Gross, the Nestor of American surgery in his day, in his centennial address said: "It is doubtful if America will ever again produce at the same time four such brilliant surgeons as Physick, Mott, Warren and Dudley." In less than a quarter of a century from that time they were numbered by the scores. Observation, experience and history teach us how idle it is to indulge in prophecy as to the negative attainments of the human intellect. From the operation of laws and forces governing the past and the present, we have a reasonable basis for predicting the future. We know that the truths and acquirements of this generation are the natural endowments of the next. The ultimate fact or final reality beyond our ken is called the unknowable, but in presuming to place an absolute limit on mental capacity is itself an assumption of prescience that does not seem justifiable. "Unknown" is a better term, for it is constantly dispelled in the calcium light of a restless scientific age; though it does reveal the eternal truth that there are still "more things in heaven and earth than are dreamt of in our philosophy."

Many of the best surgeons believe that operative technic has now reached such a degree of perfection that there is little room for further improvement. In a general sense this is true. No modern surgeon now infects his patient, and in many respects it would be difficult to improve on present methods; but so long as we must adapt our procedures to new facts, improvement in technic will continue. For instance, it is only a short time since intestinal perforation occurring in 2 per cent. of typhoid cases was regarded as almost hopeless, and yet to-day from the first operative case by Mikulicz the percentage of recoveries is estimated at 25 per cent in adults and 65 per cent. in children. It is equally true that intestinal paralysis was looked on as the final stage of an abdominal disease, against which it was useless to contend; yet recent experience demonstrates that by aspiration or incision of the intestine and draining the canal, some, perhaps many, patients will be saved who certainly would have perished by ordinary methods. Our knowledge of pancreatic disease is recent. The surgery of the organ is necessarily limited, yet experience strongly indicates that its pathology is amenable chiefly to surgical procedures, and is but slightly influenced by medication. That the operative technic in these conditions will be improved there can be no doubt, as I am convinced will be the case in other diseased states whose pathology and treatment are not as yet well known. Still I believe that the professional mind of the immediate future will be occupied more with questions of preventive medicine and immunity—prevention by the formation of established medical opinion into rules and laws, and immunity through serum inoculation. Inoculation for smallpox was the beneficent beginning in 1798. The remedy for rabies, which we owe to the scientific genius of Pasteur, is the only treatment that bears good fruit, and it must be early. Since Behring produced diphtheria antitoxin in 1890, results have been revolutionized, and instead of fearing it as one of the most dreaded and fatal diseases, it is met in the confident belief, based on ample experience, that inoculation by antitoxin not only prevents, but its early use is practically a specific in the treatment of the disease. Experiments along this line to prevent typhoid fever are promising. Pneumococcic and antistreptococcic, cancer and antitetanus toxin medication are in a tentative state. The specific germs of all infectious diseases will yet be discovered; the remedy will follow, probably in serum therapy. Dun-

1. For many of the facts as to priority I am indebted to the address of Martin B. Tinker, M.D., before the Johns Hopkins Hospital Historical Club and to the American Journal of the Medical Sciences.

bar has, in the last year, demonstrated that the pollen of grasses and certain cereals is the active agent in the production of hay fever, and he has produced a serum which promises the most gratifying results in its treatment. We may hope, therefore, that in the not distant future these sufferers will not have to go to sea or climb mountain heights for relief.

With the exception of a very few diseases, we have no medical specifics, but in the future of medicine and in certain surgical states we have every reason to anticipate better results in serum inoculation.

In a brief allusion to medical education and preliminary requirements to its study, I do not intend to make invidious comparisons; but no man who is interested in his profession, its character and future, can be indifferent to the intense general interest manifested by the profession and educators at the present time. The subject, in all its phases, is most interestingly treated in the recent annual educational number[2] of THE JOURNAL of the American Medical Association, and in able addresses of physicians and educators, notably the address[3] of the President of the American Medical Association, Dr. Billings of Chicago, himself a distinguished physician and teacher. This is a plain, forceful discussion of the subject, specifically and generally, in its relation to the qualifications and motives of teachers, no less than of students, and ought to be read by all.

The Association of American Medical Colleges has recently made a high-school degree the minimum preliminary standard for medical study,[4] but as this standard varies in different communities, its value is somewhat uncertain, though it does indicate substantial progress. About one hundred of the one hundred and fifty medical schools in the United States are private. There was a time, not long ago, when the tuition of the students paid the salaries of the few teachers and the necessary expenses of these schools; but this is no longer possible in a modern school. The conditions are so different, the requirements and equipment necessarily so much more elaborate and expensive that the old era has passed away, and happily, not to return. Schools must be endowed by the individual or the state in order to meet the demand. The necessity and interests of the higher education in behalf of humanity and a more exalted professional standard should be the governing spirit and motive of those who receive, as well as those who give instruction. What shall be done to meet the recent just criticism of the long time required in getting a university or collegiate and professional education? One prominent college cuts the four years' course one year. Columbia proposes a two-year term, but it has not been accepted so far by any college. Four years in the high school, four years in the university or college and three in a law or four in a medical school is using too much time in preparation for practical business purposes. The high school and college courses are not as a rule taken seriously, and in the prevalent absence of a distinct purpose for the future, demoralization in spirit and in study and responsibility results, which further explains the idle talk that education unfits one for practical business. It would not be wise to curtail the medical course, neither is it necessary. Some of the universities propose, in the interest of medical students, to incorporate the fundamental branches of medicine in the junior and senior years, which would give two years only to the exclusive study of medicine, chiefly clinical, thus making the university and medical course six instead of eight years as at present. It is to be doubted if this is the best solution of the problem. There is a better and more practical way. In my opinion the high-school course should be cut two years. If not, any bright boy can take a preparatory course of two years and enter any college or university in America, where he may remain three or four years and enter, well equipped, on his professional studies. I believe it feasible and perfectly consistent with the future vocation of the student to cut the college or university course one, certainly, and possibly two years, thus enabling one, without a sacrifice of the classics, to get a splendid business and professional education in three or four years' less time than is required at present.

Medicine is a profession of peculiar responsibility, and requires great patience in study and preparation. No young man should wish to engage in its practice on his own responsibility under 25; but having clinical advantages, which is necessary to the best equipment, he may safely undertake it after. Johns Hopkins has the highest preliminary requirement of any medical school in the country—a bachelor's degree, with a certificate of proficiency in chemistry, physiology and physics. With this innovation a few years ago, other schools and some of its own friends predicted failure, thinking the standard too high; but under it we learn that 100 freshmen entered the school the past year. Its success was assured in a short time. There was never a substantial reform incident to human endeavor unattended with suspicion, incredulity and opposition. However costly, we know that the medical profession is ever stronger and better for them. Before seeking a medical education, it is important for the student to consider natural fitness, as well as inclination for the work; or some field of learning or labor will miss a brighter star and some man a better destiny, however seriously he may have struggled.

There are 27,000 medical students in the United States at the present time, and over 5,000 graduates annually, which, according to customary estimates, is 2,000 in excess of the requirements of population. Billings and other authorities assert that there are too many schools, too many matriculates and too many graduates. That these defects in our educational system will be corrected is manifest.

In a recent publication we find the interesting information, incident to the medical congress just held in Vienna, that in the Austrian Empire the number of medical students has decreased 60 per cent. in the last ten years, and young men are advised against the study of medicine, partly on account of the poverty of the country districts, which has forced all the best men into the cities, with consequent dissatisfaction due to overcrowding. The important fact is also mentioned that owing to sanitary and hygienic reforms instituted by the profession, the number of cases of sickness has diminished 50 per cent. in the last twenty years. This might be profitable reading for Colorado governors and aspiring statesmen interested in the organization of "medical trusts."

The laboratory, as the necessary foundation of scientific medicine and the instrument of its application to human ills, must ever fill a most conspicuous place in the medical curriculum. It was the laboratory and the scientific work of such men as Pasteur and Tyndall which appealed to the practical genius of a Lister and

2. THE JOURNAL A. M. A., Aug. 15, 1903.
3. Ibid., May 9, 1903.
4. Ibid., July 25, 1903, p. 274.

formed the basis of modern medicine and surgery. By such preparation and efforts, experimental and proved, the profession will rank second to none in scientific work and standing. More than ever a broad culture is justly deemed necessary to the best teaching and to the most accomplished work, both general and special.

The special knowledge and peculiar fitness of medical men for certain branches of the public service, both legislative and executive, is more than ever being recognized. The health of cities, communities, states and nation, food and water supply, and conditions of living are chiefly in their knowledge and keeping. Without their influence and action there can be no sound legislation affecting these interests. Without them disease would still ravage cities, schools, states and nation, and those engines of commerce and civilization, in peace and war, would turn back from every sea and every land. It must be admitted that where this influence is felt in the customs and laws of a people, there only will both health and business unite in safety, and social advancement and material prosperity reach the goal of a reasonable hope and a just expectation. The complete realization rests with the medical profession in unity of purpose and concentrated action. In Europe, if not in this country, physicians may aspire to be even statesmen. More than here they fill important offices in the suffrage of the people. Sir Frederick Treves, in the zenith of a brilliant surgical career, foregoes some of its responsibilities to enter parliament. Lister and Playfair have received its chief honors. In the present year eighteen medical men were elected to the French Senate and more were candidates. The list includes members of the French Academy of Medicine and such distinguished names as Cornil, Pozzi, Peyrot and Jean Bayol.

We can not hope to pass good laws regulating the practice of medicine and conserving the public good without such effort on the part of the profession. Medical character, decent qualifications in those who practice and the public health demand positive and united action. No one who is fit to practice will object to it, and no enlightened citizen who respects knowledge and values character, can offer a reasonable objection. Yet we are treated to the humiliating spectacle of two governors of Colorado vetoing better laws than the one in force, and doing so practically in the direct interest of the most unadulterated charlatanism and in the spirit of that political Chauvinism, which, under the guise of personal liberty, is so often the cloak under which one hides ulterior motives and purposes; for that which is not for the good of the greatest number is usually not liberty but license. Only a Talleyrand can play this rôle successfully, and he would not employ the arts of the ward politician nor the sophistry of the demagogue. The pseudo Christian and scientist is one who, to my positive knowledge the past year (and he is representative of the class), is taken to the pesthouse and treated for smallpox, yet on returning denies positively that he has been sick. If such people are fit to make laws and to advise governors as to their duty in such matters, then, indeed, ought taxation for educational purposes to be abolished, for if ignorance is to be thus commended, we should have no use for schools and universities. But as a fact, from the office of bootblack to that of President of the United States a different rule prevails, except as to the study of medicine and the qualifications of a doctor in Colorado. If years of preparation, study and labor do not the better fit one for certain special work, then there is no virtue in knowledge, nor in the best and most humane endeavors. If utter ignorance of even the fundamentals of medicine, and the cyclical visitations of quackery, even though basking in the sunshine of science and a liberal Christianity, fits one to treat infectious diseases, and its legislative denial invites an executive veto, then where is the public safety and the vindication of learning, if not in the honor, the spirit, the conscience, the beneficent progress of modern medicine, and in that professional organization and action, state and national, now in progress, and whose influence is destined to be felt, even with those who only consider the question of votes in the determination of public questions. The governor vetoed the Sanford bill on the ground that it was in conflict with the "bill of rights" in preventing "christian" and other species of quacks from treating "contagious diseases," considering the practice by such people a religious exercise. The bill of rights guarantees freedom of speech, but holds the individual responsible for its abuse. It says that no person shall be denied any civil or political rights on account of religious opinions, but "it shall not be construed to justify practices inconsistent with the safety of the state." There is but one avenue to the legitimate practice of medicine, and that is a course of studies involving as essentials anatomy, physiology, chemistry, physics and clinical medicine. Without this preparation no person is fit to practice medicine, and no others deserve the protection of the laws. Any man who is competent to fill a distinguished public office ought to know this. The principle is recognized in the study and practice of law, of theology and of every other learned profession and practically in every known vocation except that of medicine. There is no reason and no excuse for the exception. It is a psychologic expression of conduct "that there is a natural tendency in the human mind to cast the burden of its doubts on a higher power and to relieve itself from the effort of decision and responsibility by seeking in mystery the solution of its difficulties." When a politician or official wants to do a thing for which he can give no valid reason, he appeals to the magna charta—to the bill of rights on religious freedom or to "trusts," seemingly, because one has the ring of casuistry and the other is an object of popular prejudice and distrust—as if society was not entitled to protection against vice and ignorance and the practices of those who, in the cause of mammon, usurp the sacred names of religion and science. In the ordinary business affairs of life people want those to serve them who are best qualified by study and experience. If health and life are valued as highly, one would think that the highest qualifications attainable would be as necessary and desirable. When those engaged in a calling demand the best preparation and the highest possible qualifications, it is in the interest of society and the state and should be welcomed by every enlightened people. "The safety of the state" demands a medical practice act and public health laws which are consistent with modern thought and progress.

Where enlightened medical opinion has been embodied into laws, sickness has diminished. This is the experience of the civilized world. When medical men are more numerous in legislative and executive offices, progress will be more rapid and satisfactory. The day is not distant when not only the food supply of the people but the water supply of cities and states, schools and public institutions, in fact everything that relates to the

public health, will be directly under the supervision of competent physicians. Four hundred children died in this country last July from tetanus due to accidents on the Fourth, chiefly from the toy pistol.[5] Officials and the public have for years been warned by the medical profession of this danger. When its advice and suggestions are put into laws, needless mortality will cease and the public health will be safely guarded.

Impurities and adulterations of water and foods are so common and so full of danger to the public that every good citizen should hasten and welcome the day. It is not a matter of guess work. The knowledge is at hand to control these evils and to prevent endemic and epidemic diseases, which to-day are a reproach to every civilized community, for the causes and facts being known, it is only necessary to apply them to the government of homes, cities and states, and to the conduct of life to prevent and control them.

The nation, through the United States Public Health and Marine-Hospital Service, has exhibited commendable zeal and interest in excluding and suppressing portable diseases. When officials and law-makers are made to see and admit the truth that those who speak and act from special study and experience are the most competent to judge of the conditions, and, therefore, of appropriate laws affecting the public health, then sickness will be less prevalent and will be better treated and less fatal. Then, too, the solidarity of a common citizenship, guided by enlightened opinion and just laws, will mark a new page in the cause of humanity and in the annals of medicine. If every profession does not hold up its own standard, others will not do it for it, even in a progressive age. If we are animated by the good of the many rather than the selfishness and interests of the few, opposition will wear away. The history and progress of medicine is a struggle against ignorance, superstition and cupidity. It is identified with the betterment of mankind—a profession in which is blended aspiration, ambition and the most worthy altruistic motives. Its cause is that of humanity and science, and though the few must handle the laboring oar, time will, as ever, vindicate the effort.

We appeal for just and liberal laws governing the study of medicine, and a higher, more uniform and exact standard in the requirements for study and in the qualifications to practice, knowing full well that this alone is for the general good and to the honor and dignity of a profession, whose whole life is one of labor and sacrifice for the welfare and ennoblement of man.

This was the dream of Hippocrates 2,500 years ago. Its realization is no longer a hope or a doubt. The struggle for the preservation and improvement of the best is ever on and will never end. As each heroic generation rounds out its day and enjoys its blessings, the next will take up the unfinished task and carry it on to still greater perfection. This is our heritage, our duty and our destiny. For since the sixteenth century we have not honored an idolatrous worship, but respect men for what they are and value them for what they do.

5. THE JOURNAL A. M. A., Aug. 29, 1903.

Experience with Morbid Minds.—The *Alienist and Neurologist* emphasizes the value to the general practitioner of medicine of an insane hospital experience in addition to a general hospital interneship. It is well to know abnormal and normal psychic symptomatology in their clinical aspects, when we go out to detect and combat the morbid enemies of mankind as they appear in the diseases that affect humanity.

Original Articles.

DEMONSTRATED PATHOLOGIC CHANGES FROM ALCOHOL.*

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Recently a new field has been opened for a study of the symptoms following the use of alcohol. The external phenomena of the functional and mental activities of the body can now be measured and tabulated with exactness unknown before. It is assumed that, if the current beliefs and theories are true concerning the tonic and stimulant action of alcohol on the organisms, it is possible to prove it by the more perfect instruments of precision. Also that theories and variable experience held so tenaciously by many persons can be tested by something more than experience, logic and intuition. The action of alcohol taken in the body can now be traced by a study of the functional activity of the senses, the movements of the heart, the muscular activity, mental vigor, temperature of the body and other conditions with a degree of accuracy unknown before. From this point of view a number of observers have taken up this problem and pointed out conditions clearly traceable to the action of alcohol about which there can be no question.

Professor Kraepelin of Heidelberg has for a long time made experimental studies with instruments of precision on the external phenomena of the body which were due to the action of alcohol. These studies have been going on for years, and recently the conclusions of some two thousand of these experiments have been published. Other observers during the last two years have repeated these experiments with newer instruments of precision, verifying Kraepelin's studies, and adding some new facts to the subject. I have made many of these experiments personally, and, in common with other observers, have been astonished that such work has not been done before. The uniformity of the conclusions indicate a range of facts that very largely explain many of the symptoms following the use of alcohol. In these experiments, only healthy, temperate persons are available. In Kraepelin's work they were generally university students and a few laborers whose lives were temperate, and whose occupation and living were uniform. Each person was examined at a certain time every day to determine the sight, hearing, taste, smell, muscular activity, heart's action, temperature, point of muscular fatigue, memory, time reaction and thought rapidity. These examinations were made daily for a period of ten or more days. The results were tabulated and the average of these examinations was put down as the normal equation of the man. Sometimes the experiments were carried on for a much longer period. The normal condition having been ascertained in this way, the person was given at a certain hour in the day midway between meals or after the time of eating, an ounce of ethylic spirits. Thirty minutes after very careful examinations were made of the senses and other conditions, and these examinations were repeated every forty minutes for a period of two or

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. S. Solis-Cohen, George F. Butler and N. S. Davis, Jr.

three hours. The second day after, a similar quantity of alcohol was given, followed by the same measurements and tabulation of all the symptoms following. This was continued every day or every second day, according to the susceptibility of the person, until ten or more examinations were made, the person in the meantime living with great regularity, both in exercise, diet and sleep. At intervals of four or five weeks, and sometimes two months, the subject was experimented on again. The results of these experiments on a large number of persons extending over several months indicated the following general conclusions:

THE ACTION OF ALCOHOL ON THE SIGHT.

If the normal vision of a healthy man will enable him to read letters a half an inch long thirty feet away, from thirty to sixty minutes after the use of an ounce of spirits these letters can not be seen at that distance, and must be brought up to within eighteen or twenty-five feet to be seen. The sight has diminished to the extent of from ten to twelve feet. The color sense was also disturbed. Colors that could be distinguished were obscured or lost altogether. The red lines had faded away and were totally obliterated. Forms and shapes were blurred and indistinct, except when seen very near. The expression of the eye was changed. Clinically, this palsy of vision so apparent in intoxicated persons, seen in the prolonged staring and efforts to concentrate the sight, is a very common symptom. This is confirmed in the experience of persons engaged in work requiring precision of vision, also in painters and photographers, who soon realize that the use of spirits seriously disturbs the accuracy of their work and hence never drink in business hours.

EFFECT ON HEARING.

The sense of hearing was markedly diminished. In health, where the sound of a watch could be heard clearly at thirty or forty inches from the ear, this distance was lessened in half an hour or more after spirits had been used. The watch must be moved to ten or fifteen inches from the ear to be heard. Thus the sense of hearing was diminished from a third to a half. Certain sounds could not be distinguished. Certain tones were confused or lost altogether. Musical sounds were greatly disturbed and confused. Extreme states of these palsies are commonly seen in the intoxicated man whose voice is always several keys higher than natural, simply because he is deaf and can not hear his own voice except by speaking in a higher key. Even the moderate drinker shows a failure of hearing in the changed tone of voice.

EFFECT ON TOUCH.

The sense of touch was also found diminished. The capacity to distinguish between heat and cold was impaired. Bulbs of iced and hot water which could be distinguished normally at a distance of an inch, after the use of spirits must be separated two or more inches to be recognized. Rough and smooth surfaces were equally confused. The distance at which they could be discriminated normally was enlarged by half or more. In some instances, hyperesthetic states of the skin appeared in the first half hour after the use of spirits, then anesthesia came on, remaining one or two hours before passing away. The first effect of spirits, giving an impression of warmth over the surface, was followed by a sensation of cold which remained a long time. The surface sensation of the body was found to be deranged a much longer time than that of sight or hearing.

EFFECT ON TASTE.

The sensation of taste was changed. Mixtures containing so many drops of bitters, salts or acids, which could be detected in health, after the use of spirits were not recognized. The quantity of flavoring substance used was increased from a third to a half more before it could be recognized. Tea-tasters and experts who depend on their ability to discriminate flavors find from practical experience that this sense is greatly disturbed and obscured by the use of spirits. The power to discriminate odors was equally disturbed, both as to quality and distance. Carbolic acid, which was readily discerned in health, was unrecognized at a short distance and only faintly perceived when brought up closely. Both the sense of taste and smell were profoundly depressed from the effects of an ounce of alcohol, this depression only passing away some hours after.

EFFECT ON MUSCULAR CAPACITY.

The effect of alcohol on the muscular capacity was tested by the dinometer and aërograph. The normal muscular capacity for lifting, pulling or pushing, also the point of fatigue, was determined in these cases. After the use of an ounce of spirits an apparent increase in this power appeared, but this always passed off in twenty to thirty minutes, followed by a marked diminution. The capacity to push with forearm seventy-five pounds or more was diminished to fifty, and sometimes more, within an hour. The power of pulling five hundred pounds dropped down to three or four hundred, also the ability to raise a weight twenty inches declined to fifteen inches in the course of an hour. The point of fatigue was marked. In a long series of experiments it was found that fatigue would follow after raising so many pounds so many feet. The arm or leg capacity having been ascertained, after the use of alcohol this was greatly diminished. Thus a person who could raise with his forearm 100 pounds in one-pound weights one foot in a limited time, utterly failed to raise half this weight in the same period an hour after alcohol was used. The fatigue point was reached in half the time and with half the work done.

EFFECT ON THE HEART.

The action of alcohol on the heart beat indicated two periods, a short stage of irritation and increased activity, followed by a long period of depression with slow recovery. Thus the heart's action was increased from ten to fifteen beats the first half hour, then there was a steady fall, in many instances the beat rate declining as far below the normal level as it had ascended above. In several instances this increased activity was very rapid. In others it was slow, but in from twenty to thirty minutes the maximum was reached, then followed a decline.

The temperature of the body showed slight fluctuations, never rising, but always falling, sometimes half a degree or less.

EFFECT ON MENTAL FUNCTIONS.

The action of alcohol on the mental functions was very marked. Thus on memory where from a series of experiments the natural equation indicated a range of 10 per cent. of failures in health, after the use of alcohol this percentage doubled. In the card test where a person seeing a set of cards was required to put down the duplicates, or where a list of names was given which the person was required to write out after seeing them a moment, a very marked palsy of this faculty appeared.

Thought rapidity and time reaction showed the same paralysis. With the aid of a battery and a clock marking the parts of a second the time was measured from the moment an object came into the field of vision to its record on a dial by the pressure on a button. This, in parts of a second, showed both the rapidity of sight and brain power of registration. If in health such impressions could be recorded in a fourth of a second from the time it was seen, after the use of spirits this time was lengthened to one or more seconds. Another experiment to show thought rapidity was to repeat words or short sentences uttered by others and registered in the same way by an electric clock. The health standard having been found, the action of spirits literally doubled the time in these cases. Numerous experiments involving reason and discrimination were made, one in which the person was asked to pick out pictures of animals and name them from a group in sight. After the use of spirits the time required was 40 per cent. longer, showing impairment both of the senses and the power of reasoning. In some experiments which I have made on simple mathematical calculations the percentage of mistakes was from 15 to 20 per cent. greater after spirits were used than before. Persons blindfolded and given tasks requiring consciousness, reasoning and correct thought were found to show very marked change and palsy after spirits were used.

These experiments may be carried on in a great variety of ways; having first found the normal condition of the person, the deviation from this can be ascertained and measured with great accuracy. During the past year Kraepelin has published some new studies, in which he has been able to recognize and measure the effects of half an ounce of ethylic spirits. This would be equivalent to an ordinary glass of one or one and one-half ounces of the common strong drink. One ounce of spirits is the ordinary equivalent of two and one-half ounces of whiskey containing from 40 to 50 per cent. of alcohol. These experiments are very significant, and seem to point out conclusively that alcohol in these doses is distinctly a paralyzer. In some work done in this country along this line where a single dram of alcohol is used, the effect on the sight and hearing was transient, but the effect on the higher brain was measurable. The difficulty in having a personal equation or normal standard from which to judge is a serious one. I have been able to point out in two cases very marked depression of the senses and brain activities from two drams of alcohol, but not having any knowledge of the person, the value of these experiments were limited.

These experimental studies are supported by clinical experience and fully illustrated in every person intoxicated by alcohol. The observations of a number of persons, including the writer, show that in all toxic states from spirits there is the same palsy of the senses and of muscular power, depressed heart's action and slowing up of the mental activities of the brain. Hence the researches of Kraepelin confirm these facts and show conclusively that the paralyzing action of alcohol begins at a very early period and from a very small quantity of spirits. It is difficult to believe that it has any other action on the nerve centers or protoplasm of the body than that of a narcotic and paralyzant.

Rice cooked with milk furnishes the most easily digested food with the largest amount of nutriment contained in moderate bulk.—*New York Medical Journal.*

THE LEGITIMATE THERAPEUTIC USES OF ALCOHOL.*

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In discussing this topic it is best to first state just what we have the right to expect from alcohol as a medicine. The desired action from a dose of whiskey or brandy or its equivalent is a warming of the surface of the body, an increased pulse tension, a moistening of the dry skin, absence of nausea, absence of much flushing of the face, absence of throbbing in the head, unless a case of syncope is treated by a large dose, when many of these primary undesired symptoms might occur. In giving alcohol continuously the dose should be regulated by the signs. If it causes flushing of the face, dry skin, dry tongue, a throbbing, bounding pulse, even temporarily, and the odor of alcohol is on the breath, the dose is too large.

Alcohol is by no means a cure-all, and, undoubtedly, in the past much harm has been done by its indiscriminate use. Perhaps, even to-day, it is used more frequently and more freely than its physiologic action warrants, and it should never be prescribed unless there is some definite indication for it. Indications for the use of alcohol may be divided into:

1. Local.
2. To stimulate the heart.
3. As a food.
4. To increase the appetite and aid digestion.
5. To relieve acute internal congestion.
6. To dilate and relax the peripheral circulation.
7. To produce sleep.
8. To combat poisons in the system.

THE LOCAL USE OF ALCOHOL.

The stronger preparations of alcohol may be applied to any part of the surface of the body as an astringent to stop secretion and to harden the tissues. For this purpose it may be used to harden the nipples to prepare for suckling, to stop profuse perspiration of the axillæ or feet, to prevent bed-sores, and weaker alcoholic preparations may enter into the composition of hair tonics to prevent too much sebaceous secretion and oiliness of the hair. Strong alcohol is hemostatic to capillary oozing. Absolute alcohol more or less constantly applied to the surface over a beginning boil, as in the ear for instance, may prevent its culmination and abort it. In concentrated form it will act as a rubefacient while being rubbed on the skin, but if allowed to evaporate it will cool the surface of the body. If diluted it evaporates more slowly and the cooling is prolonged, hence it is often used to reduce temperature. If the surface of the body is sponged with warm alcohol it is sometimes very soothing, quieting restlessness and producing mental calmness in a feverish patient. Probably a large part of the advantage of the different tinctures and extracts used for sprains, bruises, etc., is due to the alcohol which they contain. Alcohol diluted somewhat, depending on the thinness of the skin, applied on gauze or lint or lintine and covered with rubber tissue or other impervious dressing and changed every six hours, will remove the swelling

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. S. Solis-Cohen, George F. Butler and N. S. Davis, Jr.

and pain from a sprain and aid in the cure or prevention of synovitis, myositis or inflammation of the tendons quicker than most any other treatment we can institute. Diluted alcohol, one to four or five parts of water, or weaker, makes a good astringent and antiseptic mouth wash, hardening the gums and sweetening the breath. Flannel or towels wrung out of very hot water sprinkled with alcohol and placed on the abdomen or any other part of the body and changed every fifteen minutes for an hour or two causes a splendid rubefacient and counter-irritant action. A brick heated in the oven, wrapped with three or four layers of flannel dipped in boiling water and allowed to drain, and then a considerable amount of alcohol poured on it, placed beside a warmly covered patient in bed, will produce a splendid alcohol steam bath. Locally applied to the back in this form it is very efficient in the treatment of lumbago.

In the form of alcohol brandy is especially a carminative and an astringent for diarrhea, and markedly so in the form of blackberry brandy.

TO STIMULATE THE HEART.

There is a considerable difference of opinion to-day as to the value of alcohol as a cardiac stimulant. Its action on the vascular system, however, is marked and positive. The irritation which strong alcohol in any form causes on the mucous membrane of the throat, esophagus and stomach acts reflexly through the medulla to cause vasoconstriction and, hence, a rise of blood pressure, and increased blood pressure is always a stimulant to the heart. After alcohol is absorbed into the blood, where it circulates as alcohol, it can not, in my opinion, by its physiologic action on the vasomotor centers, on the blood vessels, and the heart, ever be a stimulant, although, as its secondary effect is to dilate the blood paths, this very effect of increasing the peripheral circulation may better the condition of the heart. Through, then, the irritant impact of the alcohol on the mucous membrane the blood pressure is first raised, but when it is absorbed the blood vessels dilate, especially those on the surface of the body. This relieves any spasmodic contraction of the peripheral blood vessels, whether from fear, from pain, or from chilling of the body, and this equalization of the circulation relieves any internal congestion that may be present. By this widening of the blood paths, provided no condition of shock is present, alcohol will relieve the laboring of a weakened heart. If too large doses of alcohol are given this vasodilatation goes on to partial paralysis of the blood vessels, and a weak action of the heart from this cause alone will occur. Hence, in shock where the blood vessels are widely dilated or perhaps paralyzed, either from chloroform or ether narcosis, or from morphin narcosis, or from injury or collapse, alcohol, except for its primary stimulant action in small doses, would do harm and is contraindicated.

The exact action of alcohol on the heart itself is not proved beyond a reasonable doubt. Certain it is that overdoses of alcohol after absorption are depressant to the heart muscle, to the muscle fibers of the blood vessel walls, and to the vasomotor center in the medulla. In sudden cardiac failure the reviving action of alcohol seems to me to be due entirely to the reflex stimulation of the mucous membrane of the throat and stomach. By this stimulation we cause an increased cardiac frequency and a slightly raised blood pressure from the contraction of the arterioles due to the reflex action on the medulla. This action, which occurs before much alcohol has been absorbed, may tide over the condition of acute cardiac failure, and if not much alcohol has been given there will be no future cardiac or vascular depression. If too much alcohol has been administered and absorbed the result will be to increase the previous depression unless more fresh alcohol is given for its continued stimulant reflex effect. If the previous doses are not too large and are, hence, rapidly burned or eliminated, the effect will be continued stimulation and not depression.

In conditions of high temperature where the heart is very rapid from the stimulation of the fever, from the irritation of the toxins in the blood, and from nervous irritability, alcohol, by quieting the nervous system, dilating the peripheral blood vessels, and possibly combating the toxins in the blood, generally reduces the temperature and slows the pulse. If the dose is properly regulated, this action will be found to be continuous for good. Too large doses or too frequent administration of alcohol may do one of two things: either stimulate the brain and cause more excitation, increasing the temperature by increasing muscular irritability and restlessness and causing enough of its local reflex irritation to make the pulse bounding and full, or, if it is too rapidly absorbed, it will give the symptoms of alcoholic depression on the circulatory system. Hence, in acute cardiac failure to get the stimulant effect of alcohol it must be given concentrated as exemplified by brandy, whiskey, gin, rum and champagne, and in small doses. To keep up this stimulation another dose must be given in from fifteen minutes to half an hour or an hour, depending on the continuousness of the heart weakness, in order to repeat the stimulation of the irritation. As just stated, the dose should undoubtedly be small, as the future depression from the absorption would be less than it would from large doses. If the frequency of the dose is such that alcohol piles up in the system and more is given before the previous ingested amount has been burned or eliminated, to obtain stimulation it will be necessary to give larger and larger doses, first to overcome the depression caused by the previous alcohol, and also to cause the usual stimulation. As more and more alcohol is absorbed whether from the stomach or from hypodermic injection, depression, vasomotor dilatation, cardiac weakness, and more or less paralysis of the nervous system are sure to follow. Hence, to combat continuous or persistent cardiac failure or depression, alcohol is the poorest stimulant we can use, and if much is given we are poisoning the system and adding depression to depression that is already there and the treatment is vicious.

In conditions of prolonged fever where alcohol is given no more frequently for any length of time than every three hours, one dose is probably eliminated or burned before the next one is given, and we get the primary stimulation plus the dilatation of the peripheral vessels, which equalizes the circulation and reduces the temperature.

Let me parenthetically say that I have often obtained the same good circulatory results in sthenic fever from small doses of nitroglycerin that I have obtained with alcohol.

In serious feverish conditions undoubtedly the narcotic effect of alcohol in quieting the patient, who is highly alert to his danger, may be of distinct advantage, as mental worry and anxiety are great disturbers of the

heart and circulation and should be overcome by any legitimate means.

The only time, then, that I believe alcohol can meet the indication for a cardiac stimulant is in acute cardiac failure, and then it is a stimulant to the heart only before its absorption, by the irritation which it causes the mucous membrane of the mouth, pharynx, esophagus and stomach, or the rectum, if it is given as an enema, or by the irritation of the tissues, if it is given hypodermically.

ALCOHOL AS A FOOD.

I believe that as a nutriment alcohol is uneconomical to the system and if long used is a positive disadvantage, probably even sugar being better where the amount of food obtainable is too small for the needs of the body. During feverish processes, however, as a nutriment to furnish material for the production of heat to save the tissues, fat and muscles it is of decided advantage and probably has no equal, if in such fevers not enough nutrition is taken. Undoubtedly at the present time many cases of fever are overfed. Whether whiskey or brandy should be given in every case of typhoid fever or diphtheria, or in the feverish debility of tuberculosis, or in other acute infections, is a question that each practitioner must decide for each individual case. Many such cases do well without it; many cases recover only by the use of it.

TO INCREASE THE APPETITE AND DIGESTION.

This is a very questionable indication to meet with alcohol. In occasional cases of neurasthenia, anemia, malnutrition, and inertia of the stomach, with imperfect gastric secretion, a small cocktail before meals may be justifiable and proper, but, rather than select a known alcoholic beverage for this purpose, some bitter dilute tincture will do as well, and will more readily preclude the possibility of acquiring the habit. Late in life some such stimulant to nutrition may be justifiable.

TO RELIEVE ACUTE INTERNAL CONGESTION.

After becoming chilled or getting wet or being subjected to other exposure, as the exposure of exhaustion, hot alcohol in some form combined with a hot general bath, or a hot foot bath and a warm bed, with or without a Dover's powder or quinin, is undoubtedly good treatment as tending to relieve or abort the internal congestion, whether it be nasal, pharyngeal, tonsillar, laryngeal, bronchial, pulmonary, pleuritic, nephritic, arthritic or intestinal.

TO RELAX THE PERIPHERAL CIRCULATION.

This indication for a vasodilator is present only in gouty or atheromatous conditions of the blood vessels or whenever there is too high blood pressure in the middle and late stages of life. Generally without any doubt this indication is better met by small doses of nitroglycerin, thyroid extract, potassium iodid or small doses of chloral, as well as by causing increased elimination from the skin and intestines. However, many cases occur in which alcohol has been more or less regularly taken and a small amount once or twice a day with the meals, provided the amount is such as not to cause flushing or a feeling of fullness in the head, may be of positive advantage.

TO PRODUCE SLEEP.

The use of alcohol for this purpose is only justifiable in exceptionally acute conditions or where the condition is probably not to recur, or in old people. A little nightcap of some alcoholic beverage, often, perhaps, beer, perhaps a spirit, diluted so as to prevent much stimulation, which would cause sleeplessness, just sufficient to dilate the abdominal and peripheral vessels and thus to depress the circulation in the brain, will act as a hypnotic. There are many other, perhaps, generally better methods of causing this sleep, but often the association of symptoms and conditions is such in elderly people that it is good treatment to use alcohol.

TO COMBAT POISONS IN THE SYSTEM.

It is difficult to discuss, with any reasonableness, this indication. It has long been stated, but often disputed, that alcohol in large amounts will prevent dire results from the bites of poisonous snakes. If alcohol is given in enormous amounts in the shape of whiskey or brandy the patient is soon in the first stage of alcoholic poisoning. Some acute infections in which death seems imminent have been said to have been stopped by enormous doses of alcohol, notably the final toxemia of pneumonias. The antitoxic power of alcohol in the blood against these toxins must be corroborated or disproved in the laboratory. Clinical experience in this line leaves so much room for doubt that the matter is still subject to proof.

DISCUSSION

ON THE PAPERS OF DRS. CROTHERS AND OSBORNE.

DR. J. H. MUSSER, Philadelphia—I use less alcohol in my practice than I did in former years, particularly in fevers. I feel that we are employing a dangerous remedy when we use alcohol, and for moral reasons, as well as because of the doubtful pathologic results, I employ less and less of it. The indications for its use in acute diseases are those found in intoxications as arise in septicemia and for its narcotic properties. Under these circumstances patients seem to be able to stand enormous amounts, i e., in streptococcus infections, and in that type of typhoid fever seen in the aged—the septicemic type. In typhoid fever in the young, when the disease presents actual septicemic symptoms, I use it, but I prefer to use it in very small doses, and I give large doses only for a short period of time. I believe that if we withhold it and then for a short time give it in full doses we may possibly pull the patient through a condition to which he would otherwise succumb. Each year I use less alcohol, particularly in the two diseases in which we were wont to give it frequently—typhoid fever and pneumonia; here I use it only as an emergency remedy and for short periods of time. It is interesting for one to look back over his career and note any changes in his ideas. I am pretty well satisfied that I have more patients recover from typhoid fever now than ever before, and I believe this is largely due to the manner in which I handle stimulants. Of course, there are two periods in the management of this disease, in my career, the period before the bath and the period since the bath was instituted. In the latter period, in the cold water period, I find that patients get along better without alcohol than they formerly did with alcohol and no baths. Of course, this is to be expected. Moreover, under circumstances beyond our control baths can not be employed or are contraindicated. In this group of cases I use much less quantities of stimulants with better results—certainly at no disadvantage to my patients—than formerly. I believe I can say that without qualification as to the character of the disease. I think I have seen sicker people who are not put in tubs in typhoid fever in the latter period than in the time before the baths, and yet the mortality is less. I certainly can not attribute the lessened mortality to anything else because we do not use other drugs to any extent, and when we do use them it is only as we use alcohol, just as the occasion demands for a brief period and then stop.

DR. J. A. STORCK, New Orleans—We ought to try to find out the action of alcohol in carbolic acid poisoning. What is the rationale of the antidotal effect of alcohol in carbolic acid

poisoning? In a recent meeting of a medical society this question was threshed over, but no definite conclusion was arrived at as to whether its action was due to chemical change or to mere dilution. The fact remains, however, that alcohol is the ideal antidote for carbolic acid poisoning.

DR. W. J. ROBINSON, New York—In reference to the statement by many physicians that they are using alcohol less and less each year, I have no doubt that a good many do use less, but I come across some who think they use less, yet in reality they do not. For instance, a number will give liquid peptonoids and other preparations under the impression that they are not giving alcohol, and yet we know that these things contain from 20 to 25 per cent. of alcohol, so that when a physician gives 8 ounces of liquid peptonoids he gives about 4 ounces of whisky. This is, of course, not true of all physicians, but it is a fact in many instances. In reference to septicemia, especially puerperal septicemia, I do not believe there is any drug equal to alcohol. As to alcohol and carbolic acid, there is a true chemical reaction. This is a fact; it is not a simple dilution, because we can not get the same effect with water, even if the latter be used in 100 times the amount. Experiments have been made in this direction on the outside of the body, and it has been shown that alcohol completely neutralizes the carbolic acid, and probably the same effect is obtained in the body.

DR. J. H. MUSSER, Philadelphia—I do not bother with panopeptone and such preparations except in cases in which we can not give food by the stomach. It is a class of remedies that I consider pernicious.

DR. A. C. CROFTAN, Chicago—Few people realize that alcohol has been demonstrated to be a normal product in the disassimilation of sugar. I have done some work along this line. If you take a large quantity of human muscle, or pancreas, for instance, and, under certain technical precautions, distill it with water you will get an appreciable quantity of ethyl alcohol. The knowledge of this would probably horrify the temperance advocates. From a purely physiologic standpoint this may indicate that a small quantity of alcohol is probably a physiologic stimulant.

DR. S. SOLIS-COHEN, Philadelphia—Are the sulphates a better antidote to carbolic acid poisoning than alcohol?

PROF. C. S. N. HALLBERG, Chicago—The alkali sulphates have always been regarded as the chemical antidotes because the double decomposition forms sulphocarbolates, but alcohol has certain effects which can not be obtained by using the sulphates. In addition to alcohol, camphor has a modifying effect on the carbolic acid, so that their combination, as in spirit of camphor, would probably be more effective.

DR. S. SOLIS-COHEN, Philadelphia—I am one of those who, like Dr. Musser, do not use disguised forms of alcohol, and yet I am conscious that my resort to alcohol in acute febrile affections, and especially in typhoid fever, has been lessening steadily. In fact, I never think of prescribing it, unless some special condition calls for it; in other words, I use it as I would use opium or any other drug, in specified dose for a special purpose.

DR. T. D. CROTHERS, Hartford, Conn.—We have reached a point in experimental researches where certain facts can be demonstrated with a reasonable degree of accuracy. All assertions concerning the action of alcohol on the body should not be accepted to-day, unless they have been subject to some scientific test and critical examination. The clinical fact that alcohol is an excellent refrigerant in fevers when used externally can be confirmed with great exactness and traced to the rapid water-absorbing property of alcohol. When alcohol is used as a stimulant and tonic, scientific experiment fails to point out the evidence necessary to sustain this assertion, hence such theories are only vague unsupported inferences. While it can be shown that alcohol acts most positively on the heart and vasomotor centers, both increasing and slowing up the organ and the circulation of the blood, the effect of this peculiar action is unknown, and until more accurate researches are made we must regard this action as more or less dangerous. Any remedy which disturbs the nutrition and the rhythmic flow of blood through the brain should be used with great caution. The known effects of alcohol on the senses, blood vessels and heart are very limited compared with the unknown, and yet this little knowledge is startling in the clearness with which it points out the corroding action of this agent, together with other effects not yet studied. The toxic action of alcohol, either in small or large quantities, falls most seriously on the blood vessels and heart; beyond this stretches a wide unexplored country. My paper is simply a contribution to the work that is to be done in this direction, and also an indication of how wide the domain of exact studies are.

DR. O. T. OSBORNE, New Haven, Conn.—I wish to emphasize the fact brought out in the paper that we have been using alcohol during all of these years as a cardiac stimulant in fevers, and we come to find out that it never acts as a cardiac stimulant, but that it acts as a vasodilator, and hence is of value in sthenic cases. I have seen nitroglycerin effect the same good results as alcohol. Cirrhosis of the liver caused by overuse of alcohol simply bears out the fact that continued irritation of any organ sooner or later tends to produce connective tissue in that organ.

NASAL POLYPUS; ORIGIN AND TREATMENT.*

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There is a variety of growths within the nasal chambers to which the name polypus has been given, and much confusion has arisen in consequence, both in regard to the origin and frequency of nasal polypus. Those who restrict the term nasal polypus to the gelatinous form find them comparatively infrequent compared to the total of nasal disorders, while others, like Zuckerkandl, who included posterior turbinate hypertrophies and fibro-adenomata, claim that they occur in every eight or nine autopsies.

It is my purpose to confine this paper to the discussion of the true nasal polypus or gelatinous myxoma, although what I shall say as to their causation will apply largely to the other growths which have been classed as polypi.

ORIGIN.

True nasal polypus has by different pathologists been classed among the adenomata or the myxomata according to whether one or the other elements predominated in the structure. The prevailing type is that of a pure myxoma with delicate connective tissue stroma, few vessels and made up principally of the characteristic stellate myxomatous cells imbedded in gelatinous intercellular substance, chiefly mucin.

There are certain variations according to location, life history and presence or absence of outside interference or irritations, and many are found with much connective tissue and glandular structure replacing the ordinary mucous contents. The fact that mucous polypi seem occasionally to undergo cystic degeneration indicates that they may be partly glandular in origin, but true cystic degeneration of the mucous polypus does not occur.

By far the majority of polyps spring from the anterior edge of the middle turbinate or from the edges of the hiatus semilunaris; next from the upper and posterior portions of the middle turbinate and, lastly, may be found in the interior of a bullous middle turbinal or about the outlets of the accessory sinuses. Very rarely they have been found in other localities, but when so

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen.

found have belonged to the type which I have excluded from the designation of true nasal polypus.

Bosworth has said: "It is difficult to assign any definite cause for the occurrence of nasal polypus. They are certainly not due to any impairment of the general health or constitutional diathesis, for, as a rule, they occur in patients in vigorous health." Sajous says: "They are usually considered to be due to a chronic inflammation of the schneiderian membrane."

Mackenzie[1] has controverted this view on the ground that polypus is rare in children under the age of sixteen, while catarrh is very common during those years. This is a strong argument in favor of my contention that they are produced by suppuration in the accessory sinuses, which, as we all know, are rudimentary until that age.

Bosworth inclines to the view that as the middle turbinate is chiefly concerned in osmosis in the nasal chambers the membrane is liable to become water soaked from the action of gravitation and traction from the inspiratory effort. He says: "As to what peculiar nutritive disturbance in the meshes of this tissue predisposes to this form of degeneration I have no explanation to offer."

Billroth believed them to be due to the occlusion of the ducts of some of the glandular elements and consequent mucoid degeneration, which was the view adopted by Zuckerkandl. They all just miss of an explanation which explains the occurrence of polyps in the case of fracture of the vomer mentioned by Gerdy or the frequent occurrence in cases of syphilitic ulceration where polyps spring up along the edges of the lesions; or their growth from the edges of the healing stump of a middle turbinal after removal of the latter.

SYMPTOMS.

When first forming, polypus manifests its presence by intense irritation of the mucous membrane with usually a profuse watery discharge, but when well established the membrane often becomes so tolerant of the pressure that there are no symptoms except those due to the interference in respiration. This is due, I think, to the subsidence of the violence of the initial suppuration rather than to tolerance to the pus.

As the growth increases there is a sense of obstruction to respiration out of proportion to the interference with the passage of air, undoubtedly owing to the irritation in the region of the middle meatus, which is the principal respiratory channel. The sense of smell is early interfered with owing more to the degenerative changes than to any mechanical interference with the impact of odorous particles on the schneiderian membrane.

The stenosis varies considerably with the dampness of the weather, some have supposed owing to their being hygroscopic, a view which is hardly tenable. Is it not rather due to the difference in the total atmospheric pressure on the body surface and the slower adjustment to this pressure by tissue of such low vitality and without muscular elements?

The nasal mucous membrane is intensely irritable in the presence of polypus, one small growth often causing as severe a paroxysm of asthma as does a whole noseful. There is persistent hyperemia co-existing with nasal polypus which induces great sensitiveness in the nerve endings, making them extremely sensitive to temperature and barometric changes, which irritability is, in turn, reflected back onto the general nervous system, and patients suffering with polypus are, therefore, peculiarly subject to reflex disturbances with every change of the weather.

Polypus is accompanied by profuse nasal discharges which are chiefly mucoid when the causative accessory sinus inflammation is quiescent, but quickly become purulent on slight provocation.

This brings me to my chief contention that nasal polypus is the direct result of suppuration in the cells or sinuses communicating with the nose, or inflammation of the periosteum covering the middle turbinate dependent on previous purulent inflammation within the bone itself. Nasal polypus is like granulation tissue from any mucous surface differentiated by the local modifications of the membrane lining the nose. It is like granulations elsewhere—the expression of the natural efforts at repair of tissue under the stimulus of irritating pus discharges.

We are often first called to see polypus when fully developed and when the sinus inflammation has subsided and find only bland mucous discharges. Some have concluded that when pus does accompany polypus it is the result instead of the cause.

The only way to know what is the true connection is to study the cases of small and embryonic polypus and diligently inquire into the history of each patient with full-grown specimens, when it is often easy to trace the inception to some unusually obstinate cold with prolonged flow of pus or to some systemic disorder like typhoid fever.

Solutions of continuity of the mucous membranes are very common in these conditions, and the flow of pus from a diseased sinus over the raw surface is very apt to produce what a similar flow produces in other parts, as a discharging ear, a healing mastoid or wound in other regions, namely, excessive granulations. "Proud flesh" does not occur in all wounds; neither does polypus occur in all suppurating noses; but the latter happens in as fair proportion to nasal suppurations as does excess granulation in the former.

All noses are liable to purulent inflammations, but not all have polypus any more than all scarlet fever cases have nephritis, or diphtherias are followed by paralysis. Syphilitics, either primary or secondary, are more prone to polypus formations than are healthy subjects, and the lymphatic temperament also seems more liable than the other constitutions. I do not know whether my experience is unique, but I find the Germanic races oftener the hosts of polyps than others in about the proportion of two in three of my total cases, and I do not think this is due to any preponderance of these people among my patients, as this is not the case.

As has been stated, nasal polypus originates chiefly from the nasal portion of the ethmoid, and suppurations occurring as they do in the accessory sinuses and cells tend to produce irritation of this bone and the mucous membrane covering it, owing to its position in close apposition to the outlets of these sinuses where it is exposed to the emerging pus before it is diluted with the nasal mucus.

For these reasons polypus is chiefly found on the membranes most closely in touch with the outlets of the sinuses and cells, and the natural flow of pus and mucus being backward into the pharynx, both the inferior and superior turbinates are out of the way of the greater part of the irritation.

The upper turbinate lies too high to be reached by the downward flowing pus, and the lower turbinate seems

1. Bosworth, 1889, p. 391.

to be more resistant than the middle, although the rear end over which more pus flows is subject to a form of degeneration which simulates polypus as closely as the difference of structure permits.

Nasal polypus has been found on the septum and the superior portion of the middle turbinate, but so far as I have observed it never occurs in these localities except when there are masses of polypus filling all the available drainage spaces and damming the flow of pus back so that these parts which usually escape are bathed in the irritating secretions.

I have called attention to the fact that polypus is practically unknown before 15 years of age, not because suppuration does not occur before that age but because the sinuses are comparatively undeveloped before that time; the nasal chambers are much simpler and, therefore, drain much easier, and suppuration is oftener due to adenoids than to any other cause up to that time. The discharges from the nasal chambers of children are more mucus than pus, and we seldom see the clear pus of sinus disease issuing from their noses, which is so common in adult life.

Polypus causes a variety of disturbances both locally and of the general system. The gravest of these are asthma and hay fever, which follow up their unfortunate victims year after year and make life a burden to them. So common have I found polyps in asthma that I always feel a sense almost of personal injury when I run across a case in which they can not be demonstrated; for the relief and usually cure which follows their complete removal is so certain I feel as if deprived of part of my deserved gratitude and triumphs when they are not there to be removed.

DIAGNOSIS.

Of the diagnosis I should not feel it necessary to speak if I had not so often seen mistakes made by good men who were fairly well versed in diseases of the nose, and even mistakes by men one had a right to expect better things from.

The glistening whitey gray of a polypus is like nothing else which is to be found in the nasal chamber unless it might happen to be a smooth pledget of cotton covered by a thick flow of mucus. It is never so pink as the turbinates, and to the probe it has a soft elastic, slippery feeling which is quite *sui generis*. To examine a nostril satisfactorily for nasal polyps the surfaces need to be cocainized and adrenalin chlorid applied in order to give access to as much of the nasal chamber as possible and then a very flexible probe used in order to accurately locate the point of origin of each growth.

When this has been done the polypi stand out glistening white and can not in any case be mistaken. There is a condition of the lower turbinates which superficially resembles polypus, but if it is remembered that polypi do not occur on this part of the nose, and if the method outlined above is followed, no confusion need arise. In this class of cases the lower turbinate is unusually anemic and looks water soaked, but under the adrenalin it shrinks and tightly hugs the bone, while polypus is not much, if any, altered in size or appearance.

Beside the disorders already named, there is a peculiar bronchial reflex cough which resists all ordinary remedies and which is akin to the like cough occurring in children who suffer from adenoids. This cough resists all treatment except removal of the polyps, when it usually abruptly subsides.

The prognosis as regards life is not especially unfavorable, but many an unhappy victim of asthma would almost welcome death as a relief from the suffering when in the midst of a paroxysm. It is quite generally believed that polypus may undergo sarcomatous degeneration, but the most that can be said is "not proven."

TREATMENT.

I come now to the subject of treatment, and to my way of thinking there is but one method.

Having located the base of the growth with the aid of a head mirror and a good light, encircle the growth in the loop of a good snare, and with the cold wire cut it off as near the base as possible. It is sometimes necessary to cut through the middle of a polyp in order to secure room to work, but with a proper snare this is rarely necessary, as the loop can be insinuated up to the base in most cases and there is little or no hemorrhage excited. This is a distinct advantage, as it allows continuing work with slight interruption until the whole cavity is clear.

Adrenalin also prevents most of the bleeding and greatly facilitates the work. Working from below and from before backward the nose can usually be sufficiently cleared for fair respiration at a single sitting, and the patient experiences such relief as encourages him in continuing to the completion of the treatment.

Allowing three or four days to elapse after the first removal, on the second sitting one is often surprised to see the nose almost as full of polyps as at first: a number of them, which had been securely hidden in the recesses of the nose, coming down into sight as soon as pressure is removed. When all polyps have been removed which careful search with the flexible probe will reveal, if the patient is one who can be relied on to return for occasional examination, it is well to wait for developments to see if there is any return. But if there was a large number of the growths, especially of tiny ones all along the middle turbinate, and particularly if in the course of the removal you uncover a well of pus which flows out freely; or if the case is one in which there has been return one or more times after complete removal, it becomes necessary to resort to more radical measures.

Bosworth has said: "I can not think there is any condition which warrants removal of the middle turbinal for the cure of nasal polypus."

Had he done this as often as I have he would never have written thus, for in the kind of cases I have enumerated I have always found two or a dozen polyps in positions which were totally inaccessible until either the anterior or the whole turbinate had been amputated. No cure of asthma is to be expected so long as there is a single polyp remaining, and I hold it is better to do the harmless removal of a middle turbinate once in a while when it was not absolutely unavoidable than to err by allowing many patients to go uncured when failure lay in the undiscovered and, therefore, unremoved polyp hidden behind or within a diseased middle turbinate.

From observation of a very large series of cases I have reached the conclusion that it is impossible to cure a case of polypus so long as there remains a suppurating sinus to pour its pus over the site of their growth or a diseased middle turbinate on which the growth can occur. I therefore always remove the whole middle turbinate in cases of recurrent polypus suffering from any reflex disease.

Of other methods than the cold snare I do not care to speak except to condemn them as inefficient, and as for cauterizing the stumps after removal, it is not needed if the underlying cause is recognized and removed, and if not then it can do nothing but harm.

In conclusion let me say: Nasal polypus is in effect the same thing as granulation tissue, being produced in the same way and by the same causes as granulations elsewhere; complete and permanent removal is necessary to the cure of various reflex disorders induced by their presence; obstructed sinuses filled with pus are most commonly the cause of failure to cure, and to relieve these and secure proper drainage removal of the middle turbinate is often required; and lastly, the middle turbinate requires removal in all cases of persistent recurrence on its body.

DISCUSSION.

DR. ROBERT C. MYLES, New York—The name "polypus" is very unfortunate, and to change it would be an advantage for those who come after us, especially in regard to treatment. Nearly all of our distinguished writers assert that this is a myxoma, but I think it has been proven beyond any doubt that it is not; it is not neoplastic but is simply an infiltration. Then we approach the idea of it being a mere dropsical condition. Admitting that, how does the dropsy occur? It may occur from several different sources, but usually it is due to the pressure of some inflammatory deposit on the vein. A polypus is only an enlarged mass which has occurred in this way. I think we spend a great deal of time unnecessarily digging around without removing the middle turbinate in many of these cases. In the removal of the middle turbinal in a great many cases I have never seen any very serious evil consequences.

DR. H. W. LOEB, St. Louis—Dr. Baker stated that the cold snare is the only efficient method of removal of polypi. Of course, the cold snare is highly efficient, but there are some other methods that are also of service. For instance, the electrocautery snare, with which I have removed 107 polypi at one sitting, should be considered efficient, at least to this extent. I agree that the middle turbinate must be eventually treated, and I meet the eventuation of treatment at the time I remove the polypi. I do not waste any time with the snares, either cold or hot, unless they are absolutely necessary, but I use the forceps and work as rapidly as possible. I think we must look on polypi as a surgical rather than a nasal condition. We do not waste time with a snare in taking off similar enlargements elsewhere.

DR. S. G. MINER, Detroit—I must take exception to Dr. Baker's statement that polypi are rare under the aged of 15; in Detroit we often find them under 12. The method of operation just described is not always satisfactory. After removing the polypi we will frequently find a great deal of granulation tissue under the middle turbinate and a thorough curettage of that part with the subsequent application of trichloracetic acid is very advantageous. If the inflammation does not subside and there be any pressure from the lateral wall on the middle turbinate, then I think a turbinectomy is necessary. But I do not think a turbinectomy should immediately follow the removal of a polypus.

DR. C. M. COBB, Boston—This is a surgical condition and it is necessary to remove the tissue that is diseased. If the nasal polypi are an evidence that the sinus is diseased, which I believe is very often the case, then the granulation tissue in the infundibulum is also an evidence of disease. I want to take issue with Dr. Baker as to the positive association of sinus disease and adenoids. The sinus disease may be the cause of the adenoids and the removal of the adenoids may not suffice to cure the rhinitis. Indeed, I do not believe it will cure more than 50 per cent. of the cases.

DR. F. W. HILSCHER, Spokane, Wash.—I also look on this disease as a purely surgical one. I make the same preparation as Dr. Baker has described and then I attack it with whatever instrument is at hand. Sometimes I use the snare; frequently I do not. Often I reach in with the alligator jaw forceps and cut it off with a curved scissors and then with Dr. Myles' beautiful trimming forceps I trim it off very closely, frequently including the point from which it grows, and then cauterize the base with the electrocautery.

DR. CHARLES H. BAKER, Bay City, Mich.—I do not consider any method efficient that takes the time and fussing that the cautery takes, compared with the time the cold snare requires. We all know how very flexible the wire of the galvanocautery is and it is often impossible to insert the wire in these cases. A wire of some resilience must be used or we will be forced to waste time and do poor work by what I have called fussing. The polypus is a symptom, I believe, of a previous purulent inflammation in the nose. Detroit is rather uniquely situated, and it may be that polypi occur more frequently there in young individuals, but I have found mistakes made in cases that have come from Detroit, and they were not the kind that Dr. Myles referred to that may have a polypus in Buffalo but not in Pittsburg.

THE WINDOW RESECTION OPERATION

FOR THE CORRECTION OF DEFLECTIONS OF THE NASAL SEPTUM.*

OTTO T. FREER, M.D.
CHICAGO.

Since publishing my first paper on this subject in March, 1902,[1] I have added 36 operations to the 15 reported at that time, making a total of 51.[2] Of these patients, 31 were young adults, 10 people of middle age and 10 from 12 to 17 years old. There were 43 men and 8 women. In 25 cases the deviation was in the left naris, in 23 in the right, and in 3 in both, the deflection being sigmoid anteroposteriorly; 7 deviations followed the entire septum from the tip of the cartilage almost to the posterior border of the vomer; 19 deflections were purely cartilaginous; 28 required removal of both bone and cartilage; 4 were entirely or mainly bony; 23 were of even normal thickness, while 4 were evenly thin, the cartilage being as thin as a visiting card; 12 had a thick bony base, which projected upward and usually strongly outward toward the lower turbinal. In 13 cases the cartilage was thick, averaging one-fourth of an inch through. On 3 deviations only were there exostoses and ecchondroses. In 2 there was absence of

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen.

1. The Correction of Deflections of the Nasal Septum with a Minimum of Traumatism, THE JOURNAL A. M. A., March 8, 1902.

2. ADDENDUM. Nov. 12, 1903.—Since writing this article I have performed the operation in 9 additional cases, making a total of 60. Of these 9, 7 were angular deflection, 1 bowed and 1 crest-shaped. In 5 of these the obstruction in the nostril was complete, or nearly so; 4 deviations were cartilaginous, 4 osseocartilaginous, and 1 bony; 2 deflections were in the right naris. Two of the operations were performed on children aged 8 and 10 respectively. Combined local and chloroform anesthesia was used, the general anesthesia being carried only far enough to keep the child unconscious of its surroundings, so that it did not even reach the stage of half narcosis. The local anesthesia entirely controlled the pain, the chloroform being employed merely to keep the child quiet. The slight flow of blood was readily swabbed away and the little that flowed back into the pharynx was swallowed, as the superficial general narcosis did not abolish the reflexes. The use of the Kirstein light made the operation in the recumbent posture easy and a number of the later operations on adults have been done in this way for the comfort of the patient. One small perforation occurred. It was only of pinhead size, and was made in operating on a septum that had been subjected to operations by three rhinologists, the resulting cicatrices making the dissection of the mucous membrane very difficult. All of the cases recovered without complications and with perfect patency in the obstructed nostril. The new nasal speculum of Monosmith (described in THE JOURNAL A. M. A., April 4, 1903, page 916) has proven itself very useful as an adjunct to the retractors because the vertical opening of its blades lifts the nasal tip and leaves the operative field unobstructed.

cartilage over a small area, the mucous coverings being in contact. Thirty-seven deflections were of the type called angular, while but 6 were bowed, 5 atypical and 3 sigmoid. Thirteen presented a dislocation of the anterior inferior angle of the quadrangular cartilage from the cutaneous septum so that the anterior end of the cartilage lay across both nostrils. Six deviations seemed to be large exostoses, but proved to be hollow, bony deflections. Thirty-six deflections began in or near the front of the naris, while 15 began in or near the bone. There were 14 large bony deviations reaching nearly to the choanæ. In 5 cases the cartilage was removed extensively from the anterior inferior angle of the quadrangular cartilage to the bony septum.

The operations caused 9 perforations of the septum, 7 of about the size of a pea, and 2 as large as a 10-cent piece. They were all more than an inch back in the naris, and none caused the patients annoyance. Six of the perforations were made in the first 15 operations. Since then improved instruments and greater experience have reduced the number to 3 perforations in 36 cases. Secondary hemorrhage occurred in 2 cases, in one two hours after the operation, and in the other in one week. The bleeding in both cases was severe, but not dangerous.

This summary shows that a number of people at the end of childhood endured the operation, and in none of my cases was unusual fortitude required. A medical student told me that he suffered less from the removal of his bony and cartilaginous deflection than during dental operations lasting as long, and patients may be assured that the operation is but slightly painful. The cutting away of bone and cartilage is readily borne as long as no attempt is made to break them over. In my series the cartilaginous deflections were outnumbered by those containing bone in the proportion of 19 to 32. Classed with the latter are only those needing actual operation on the bone, and usually it was difficult to tell whether there would be need of this until removal of the cartilaginous part of the deflection exposed the bone to view. A merit of the resection operation is the possibility of clearing the nostril at one sitting of obstructing bone, as well as cartilage. In the 13 thick cartilaginous deflections mere straightening of these would have given but partial relief, as the thickness of the septum itself in these cases formed an obstruction. An advantage of the resection method is that at the point of greatest narrowing of the naris it creates the utmost possible space by not only straightening the septum, but reducing its thickness to that of the two layers of mucosa. This fact very often makes extensive resections unnecessary, as a small window in the cartilage or bone suffices to free the naris completely.

Exostoses and ecchondroses rarely—in but 3 of my cases—complicated the deflection which was, as a rule, of nearly even thickness. The skeletonizing of the deflection in the resection method gives a perfect insight into the structure of the septum, and many deviations that at first seem to be exostoses, or form their base, prove to be evenly hollow bony deflections when entered. Their concavity lies far back in the naris and may be invisible, so that should the surgeon saw off the supposed crest he will find that he has made a large perforation.

The angular far outnumbered the bowed deflections, and no matter what their form in the cartilage, the bony portion of the deviations nearly all had a typical shape, that of a wedge-shaped projection ascending upward and backward in the direction of the upper border of the vomer. The inferior wall of this hollow wedge anteriorly often lay so close to the nasal floor that it was liable to be overlooked in the operation, while in most cases posteriorly the deflection rose to above the level of the inferior meatus so that it pressed against the upper part of the lower turbinal and filled the middle meatus.

I found great variations in the thickness of the mucous membrane covering the septum. In some cases thick mucosa included cartilage no thicker than an egg shell, and in one case the mucous membrane proved to be the main obstruction to breathing, as it was three-sixteenths of an inch through. In other instances it was so thin that instruments could be seen underneath it.

In no case operated on, even when the deviation was removed from the anterior tip of the cartilage far back into the bone, was there any damage to the nasal profile, but where the nasal tip had a twist to one side this deformity was often lessened or removed. This proves that the external nose does not need the support of the septum, but that its own cartilages maintain its shape.

The operation as performed now by me is in principle unaltered, but many changes in the details have led me to describe it again. The patient is seated in a chair with an adjustable head-rest, so fixed that it advances his head within easy reach of the surgeon. The light preferred by me is the Kirstein electric headlight, as it makes the operator independent of a fixed light for reflection and because its rays are parallel to those entering the eye; hence it lights the naris to its deepest part. It permits the surgeon to operate with the patient lying down should he need to be placed on a table if he feel faint while sitting. It also makes operations on children in general anesthesia possible.

For local anesthesia I still use powdered cocain, applied to both sides of the deflection with a small damp swab, and toxic symptoms of consequence have never resulted from the drug. Faintness occurred in only 4 cases during the operation; happened early in its progress, passed off long before its end and was due to fear rather than cocain, as the use of this was continued. In most cases, adrenalin made the field of operation bloodless or nearly so, but often failed to act. Applied to bleeding wounds it was not as good a hemostatic as a fresh application of cocain. Before the operation the vibrissæ are cut away and the nasal vestibule is cleaned with a damp swab. In deviations far forward, the ordinary nasal specula can not be used, and instead an assistant lifts the rim of the nostril in the desired direction with a flat retractor or two retractors. For operations further back the regular specula are suitable. Blood is wiped away with cotton swabs on pointed applicators, numerous to avoid delay, for, though the bleeding is never great, a little blood obscures the field of operation.

The first incision cuts through the mucosa only, along the vertical angle or summit of the cartilaginous deflection, which is usually vertical in direction, but may extend obliquely upward and backward. The vertical incision is joined by a horizontal one beginning about three-fourths of an inch behind it and carried along the bottom of the septum forward to beyond the beginning of the deflection. In this way an anterior and short posterior flap are outlined to meet at the vertical crest of the deflection, the incision forming an inverted T (Fig. 1). These cuts are made with knives having small blades with half-round edges (Fig. 8, B, C, D). The blades are placed straight on the shank or at an angle on the flat to cut vertically deep in the naris and their

small size permits them to enter narrow spaces. It is important to outline an anterior flap large enough to completely uncover the cartilage of the deviation in front and above, and to be caught with and held out of the way by the retractor, or by a light catch forceps.

The mucous membrane can not always be separated from the cartilage by blunt dissection, and is usually most adherent in front. Where it is firmly attached it must be dissected off, and for this I use two small, flat knives with rounded, paddle-shaped, thin, sharp blades. One of these is bent on the flat in order to dissect from the vertical incision forward (Fig. 8, E—I.)

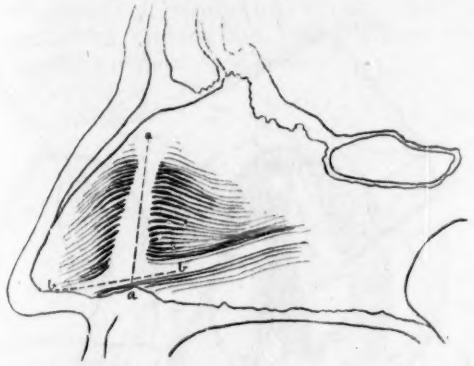


Fig. 1.—Lateral view of nasal septum with angular deflection. Dotted line a-a, vertical; b-b, horizontal incision through the mucous membrane.

The anterior flap should be detached to the limit of the outlining incisions, fully uncovering the front of the deflection. The posterior flap may also need to be dissected off for some distance back, but usually may be lifted from its attachment with a thin, dull-edged, steel dental spatula (Figure 8, M.). The separation should be carried under the mucosa as far back as the deflection reaches, behind the limit of the posterior flap. This detaches the mucosa completely from the convex side of the deflection, leaving

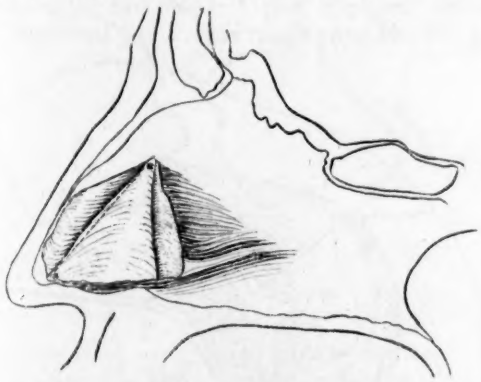


Fig. 2.—The same as Fig. 1, showing the anterior and posterior mucous membrane flaps reflected, exposing cartilage of deflection to view. a-a, Dotted line showing slit cut through cartilage at front of deflection. The separation of the mucosa from its attachment is continued as far as the limits of the shaded area, showing the extent of the deflection.

it only attached above and below, behind the limit of the horizontal incision. It may be necessary to continue the latter to the end of the deflection where this extends far back, and thus sever the mucous membrane from its attachment to the bottom of the septum along the whole length of the deflection in order to get room to work in. It is better to avoid this, however, as the mucosa applies itself much better during healing if left attached behind as much as possible at the bottom. The object in creating a short posterior flap by continuing the horizontal cut back of the vertical one is to gain room for manipulation.

When the entire deviation on the convex side is bared of mucosa a vertical slit is made through the cartilage in front of the beginning of the deflection, underneath the anterior flap, along its anterior attachment (Fig. 2). The cut must not pierce the mucous membrane in the opposite nostril. If it be made within, instead of in front of the anterior part of the deflection, that is, too far back, a portion of the deviation will be left to obstruct the foremost part of the nostril. This occurs most easily where the tip of the quadrangular cartilage lies across both nostrils as it usually does in deflections far forward. If not removed in the first place the obstructing strip of cartilage remaining in front has to be dissected out from behind toward the operator. This is so difficult that it may have to be removed from the other nostril by dissection at a later operation.

The anterior vertical slit in the cartilage is made with a round-edged knife (Fig. 8, D, or B, C), as the sharp-pointed knife I used formerly is prone to

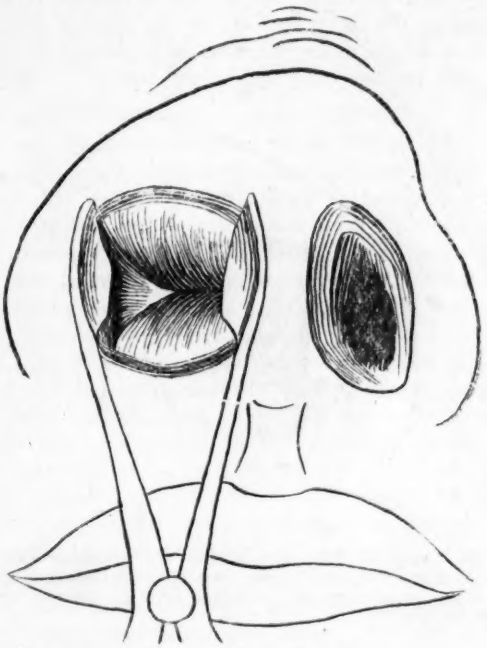


Fig. 3.—View of the concavity of a deflection.

prick through the opposite mucosa. The left little finger is introduced into the nostril opposite the deflection in order to feel the edge of the knife before it can cut through the mucous membrane after severing the cartilage. Should it make a little cut through the mucosa this will be closed when the anterior flap is replaced. Operating in the right naris is harder than in the left, as it is necessary to cross hands in order to place the little finger of the left hand in the left nostril, unless one can use the left hand for cutting.

The dental spatula (Fig. 8, M) is now pushed through the slit and under the cartilage, between it and the opposite mucosa, which it separates over the entire extent of the hollow of the deflection by severing its adherence submucously. The instrument may be watched from the naris of the concavity as it moves beneath the mucous membrane, and when this is completely lifted off the concavity appears effaced (Figs. 3 and 4). When the mucous membrane is too adherent punctures through it with the spatula occur when force is used to separate it. In these cases the posterior edge

of the severed cartilage in the slit should be seized with rat-toothed forceps, pulled outward and the mucosa of the concavity dissected from its attachment with the round, flat knives (Fig. 8, E, I), or sharpened dental spatula (Fig. 8, L) until a place is reached where the adherence is slight and the dull spatula may then be used again. If any mucous membrane remain attached it will tear through when the cartilage is removed, therefore it is important to lift all the mucosa from the concavity, especially at the thick bony base of the deflection where adhesion is greatest.

The deflection is now bare of covering on both sides or skeletonized. Ingals' pointed cartilage knife (Fig. 8, H) is now inserted in the slit and under the cartilage, passed to the back of the hollow of the deflection and with its point turned outward from the mucosa made to cut through the entire length of the cartilaginous deflection along its base. The deviated cartilage is now free at the bottom and in front, and to cut it away at the back and above it is firmly held with rat-toothed forceps, while one of the little sharp-pointed angular cartilage knives (Fig. 8, J, K) is passed under the cartilage to the very bottom of the pocket formed by the hollow of the deflection and its separated mucosa, its point also turned outward, away from the mucosa of

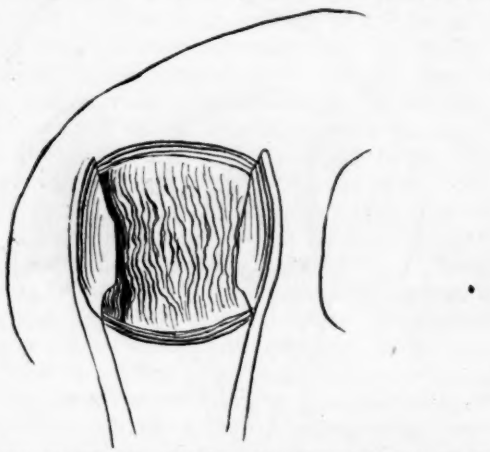


Fig. 4.—Same as Fig. 3, showing the disappearance of the concavity of the deflection from view after the mucous membrane has been separated from the cartilage through the slit made from the opposite nostril.

the concavity and the blade made to cut through the hindmost part of the cartilaginous deviation at one sweep from above downward (Fig. 5). The second little angular knife is passed in in the same way and made to cut through the limit of the deviation above from behind forward. In this way all or nearly all of the cartilaginous deflection may be removed entire, including the angle. For thick cartilage I use a pair of angular cartilage knives with longer blades (Fig. 8, F, G.).

After exsection of the piece of cartilage the inner surface of the mucosa of the concave side may be seen framed with white, cut edges of cartilage (Fig. 6). Remaining deviated portions of this are cut away with the little angular knives or the punch forceps of Gruenwald. All parts that jut out from above and keep the flaps from lying flat against the septum should be removed, and the base of the deviation, which usually projects upward and outward as a thick, partly bony ledge must be chiseled, gouged or trephined away or cut away with the punch forceps. The flaps may then be replaced if the deflection be purely cartilaginous and the operation is done; the turbinated bodies previously hidden by the deflection appear to view, the breathing through the nostril is noiseless and often the posterior pharyngeal wall may be seen.

Though ablation of cartilaginous deflections usually takes but little time, is often surprisingly simple and hardly hurts at all, removal of bony deviations requires more patience and causes moderate pain. The Roe forceps used in my earlier work often caused much suffering, and there was uncertainty as to what it would accomplish. In the not rare cases where the quadrangular cartilage is unusually large and extends far back, and

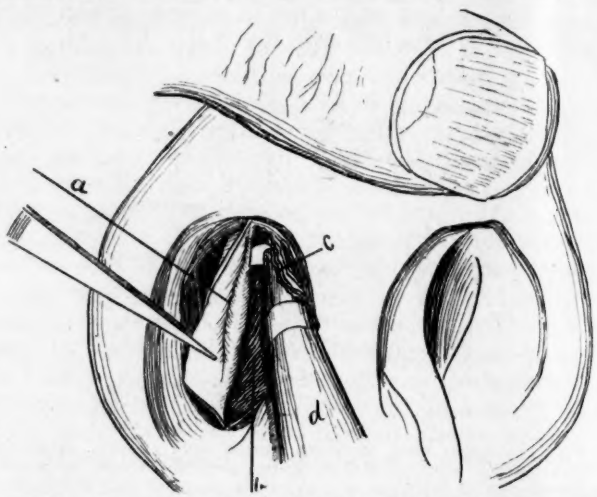


Fig. 5.—The cartilaginous deflection, including the vertical angle a, has been cut through at its base and in front and is being severed behind and above by the angular cartilage knives; b, inner surface of the mucosa of the concavity of the deflection; c, anterior flap folded out of the way; d, angular cartilage knife.

hence the septum is very elastic, the forceps often failed to fracture it, or it misplaced fragments and produced unwelcome prominences. Therefore, as I grew bolder in operating I discarded fracturing for the more precise method of cutting away the bone. I found that as long as I did not strain the septum by forcing it over I caused but little more pain when I cut the bone than when I cut cartilage. When

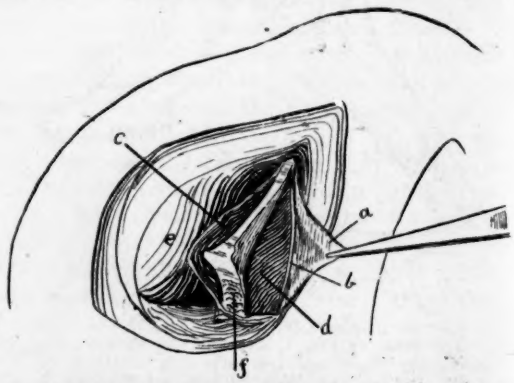


Fig. 6.—Remains of deflection, partly cartilaginous, but mainly bony, left after removal of major part of cartilaginous deflection. a, Anterior flap; b, anterior cut edge of cartilage; c, separated mucosa of convexity of deflection; d, inner surface of mucosa of concavity of deflection; e, inferior turbinal; f, bony base of deflection.

the bone is not too heavy it may be cut away piece by piece with the large Gruenwald forceps which follow it up between the two layers of the mucous membrane. Where the bone is too thick to cut through at the first bite it may be seized repeatedly with it until enough weakened in some place to punch through, or it may be prepared for cutting with forceps by short cuts into its substance with the chisel. After the

first piece is out the others cut through more easily. If the bone remaining at the base of the septum be too thick to cut away with the forceps or the gouge without forcible malleting the trephine should be used, driven by a strong, high-speed dental engine. In order to make sure that the trephine will bore into the bone without slipping at the start I use the Stacke gouge to start a chip and slip the trephine onto this as a guide. Once a core is cut out with the trephine the punch forceps usually readily trim off the rest of the bony deviation. If not, a second core may be cut out. I have employed the trephine in 17, or about one-third of the total number of my cases. Since I have obtained the later Gruenwald forceps with strong, large blades I have needed the trephine less, and this is an advantage, as the trephine causes more pain.

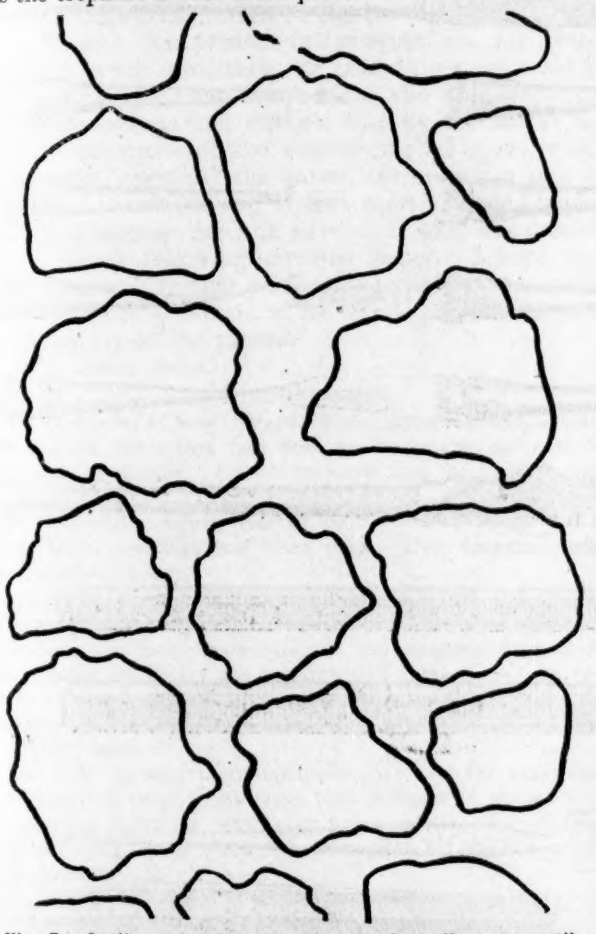


Fig. 7.—Outlines showing the amount of cartilage or cartilage and bone removed in a number of operations. (Actual size.)

In several of my cases the bony deviation extended back to near the posterior border of the vomer and so high up that it blocked the rear portion of the middle meatus, which must be cleared to give the patient the feeling of free respiration. The bony resection is not complete until the patient can breathe without stenotic sound through the operated naris when the flaps have been replaced. One can not always avoid tearing the posterior flap on the convex side when the deflection extends far back, but all torn portions should be preserved.

Oozing of blood is usually greater in the bony part of the operation so that frequent swabbing causes delay.

Perforations do no permanent injury to the patient, but retard healing, as secretions lodge in them until the wounds are well. The nasal saw is not as well fitted for the bony part of the operation as the punch forceps or trephine. Its use causes more pain, tears the flaps and removes the bone too superficially.

Bony deviations beginning far back are mistaken for exostoses by many operators who saw off the most projecting part with its covering of mucous membrane so that the piece removed frequently consists largely of the latter containing a thin crest of bone which is merely the apex of a deflection, as the saw often springs away from the septum and does not enter it deeply enough to cut away more. Prominences thus sawed off reform in great part when recovered with mucosa, as not enough bone is removed. In one of my cases the top of a deflection had been sawed away by another surgeon as an exostosis and the obstruction was completely reproduced. The resection operation gave radical relief. Crests and spurs nearly always, in my experience, rest on deflections of varying degree. Where the deflection is slight I think a better method than sawing off the crest or spur is to denude it and to gouge it out deeply, in the cartilaginous portion with the gouge and in the bony part with the trephine or burr. This will prevent its reforming. Where the deflection is of any consequence, however, it is better to exsect both deflection and crest from the bottom as described, in order to avoid imperfect results.

Deflections beginning far back are partly or entirely bony and may be entered by means of a vertical slit in the cartilage in front of them, followed by separation of mucosa and resection, as other deflections.

The amount of cartilage and bone cut out in a number of my operations is shown in outline (Fig. 7), and proves how little ordinarily need be excised to give relief, but no harm is done where much is removed, as the tissue ablated is of no physiologic importance.

When the operation is finished the flaps of mucous membrane are smoothed down with a damp cotton swab and the nostril is packed with a strip of lint one-fourth to five-eighths of an inch wide, rubbed full of subnitrate of bismuth. The packing must be done evenly and gently from the bottom with forceps with smooth, slender blades. I do not use the metal guard mentioned in my first paper, but steady the flaps with rat-toothed forceps while packing. One of the perforations was caused by too tight packing with a strip too broad so that it bunched unevenly and forced its way through the intact mucous membrane. The secondary hemorrhage in one of the two cases resulted from too loose packing. Beyond these two cases the tampons have caused no trouble. It is not safe to dismiss a patient unless the operated nostril be evenly filled with lint, as bleeding may occur within an hour or two when the effect of the cocain and adrenalin is gone. Sloughing of flaps I have never seen. In extensive resections it is sometimes well to support the bulging mucosa by a tampon in the other nostril. Bismuth tampons do not become putrid. As much of the strip as pulls out easily may be cut off daily until in about three to five days all of the packing is removed. If any of it catches on rough bone on the nasal floor it may be loosened by twisting the lint strip into a revolving rope.

The reaction and pain after the operation are so slight that patients do not need to go to bed, but should not work for from three days to a week. Fever with suppuration of the wound surfaces occurred in three cases. Both conditions subsided in a few days. In one of these patients a deflection of the perpendicular plate of the ethmoid bone, which caused distressing reflex symptoms by pressing into the right middle meatus in front, was

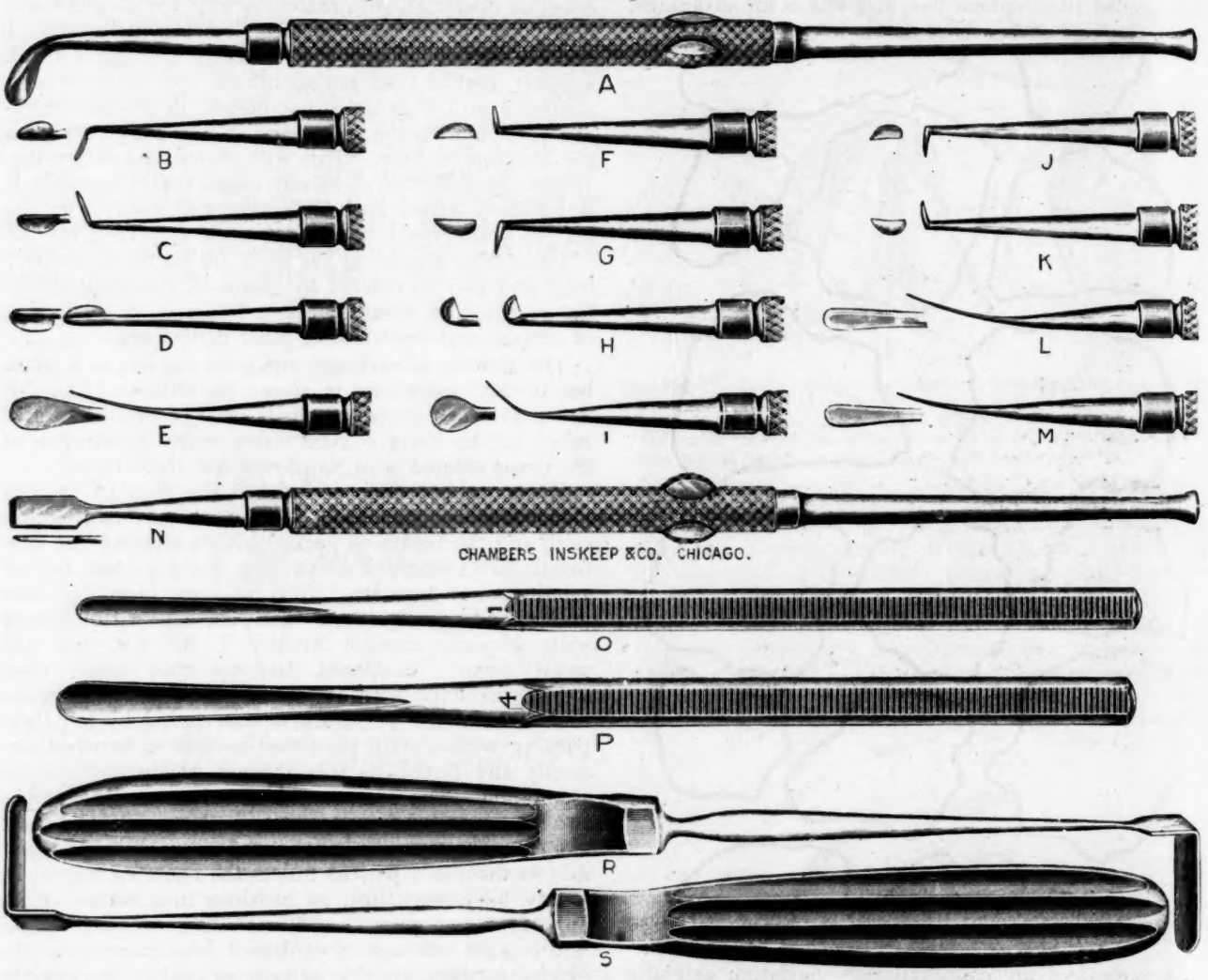
removed with permanent relief. No other complications than those mentioned occurred in my cases.

For after-treatment I have the patient spray his nose with normal salt solution and swab the nasal vestibule with an ointment of lanolin and vaselin to prevent crusting. For a week to six weeks after the operation the naris operated on is more or less obstructed by swelling, therefore the patient should be warned that for some time he will not breathe as well through the nose as he did when the operation was finished, but he may be assured of a perfect result, for in no case has the full capacity of the nostril failed to return when it was perfectly cleared at the time of the operation.

When bone needs removal the operation is sometimes long, from an hour to two hours, but the patient suffers mainly the discomfort of tedious sitting while the surgeon's loss of time is made up by the simplicity of the after-treatment.

The lumen of the opposite naris remains unchanged. It is not narrowed by crowding of redundant portions of the septum into the other naris as in fracturing methods.

The results in all of my cases but two were perfect, the obstructed nostril becoming completely clear. The two cases mentioned were among my first, and in one, through inexperience, I did not remove the obstructing bone completely. The second patient was a girl of 14 who had a bowed deviation of the entire septum of extreme degree. The operation entirely cleared the naris, but in the course of a year, as the septum grew in size with the girl's growth, the obstruction was partly reproduced. Such of my other patients as I examined long after the operation had even more patency than some weeks after it. I have not found proof of the reproduction of the removed hyaline cartilage, but the septum at the site of the resection becomes firm in some cases, while in others the window is filled with a tough strong partition.



Ffg. 8.—A, round-bladed knife, bent on edge, for dissection of mucous membrane from bony base of deflection; B and C, half-round bladed angular knives for vertical incision in mucous membrane and first cut in cartilage, when deflection is far back in the naris; D, half-round-bladed straight knife for vertical incision in mucous membrane and first cut in cartilage when the deflection is nearer the front; E, flat, round-bladed dissecting knife; I, angular round-bladed dissecting knife; F, G, J and K, sharp-pointed, angular cartilage knives for cutting through back and upper part of cartilaginous deflection; H, Ingals' submucous cartilage knife; M, dull-edged dental spatula for uplifting of mucosa; L, sharp-edged dental spatula for dissecting up mucosa in concavity; N, Chisel; O and P, gouges; R and S, retractors for holding nostril open.

In one of my last cases I used a small guarded dental circular saw driven by the dental engine. It makes vertical cuts through the bone where it is not over one-sixteenth of an inch thick, with great ease, and these cuts may be joined by horizontal ones from in front with the punch forceps to remove a piece of some size.

Fuller experience with the resection operation for septal deflections has given me confidence that there is no variety of deviation of the septum it can not remove in a neat and surgical manner without injury to the

patient. Even anteroposterior sigmoid deflections, blocking both nares, may be dissected out from the same nostril in one operation, including both bends. Dr. Charles H. Knight says that "such a sweeping operation as the window resection is only justified in extreme cases," giving the impression that the procedure is formidable. None of the operators has found it so. It is not "trying for the patient," and the after-effects are slight.

E. F. Ingals, in 1882, established the method of partial resection of septal deflections. In 1886, Krieg removed the entire deflection by his window resection. Without knowledge of Krieg's or Boenninghaus' later article, I developed my method of total exsection of deflections, so that my instrumentarium and technic are original and I have improved them as my work progressed. According to the needs shown by my operations I shaped the blades of the knives, which I made myself, and my present instruments are far better adapted to the work than the cruder ones described in my first paper. I can assure those who have found the operation tedious and difficult that by the use of the exact counterpart of the instruments (Fig. 8) which I use now, especially the knives, the operation may be done in a reasonable and often a short time and with a precision and ease much in advance of what was possible for a reader following my first paper. I hope that others will still further perfect the technic of this operation, which is so certain in its results and inflicts such slight injury on the patient.

288 E. Huron Street.

DISCUSSION.

DR. O. JOACHIM, New Orleans—The essayist has undoubtedly operated on cases that had been unsuccessfully operated on by other physicians. I wish to know how he handles such cases, particularly those of cartilaginous deviations which have been unsuccessfully treated and in which cicatricial covering of the cartilage has taken place. How does he handle the cicatricial tissue?

DR. O. T. FREER—As to those cases in which the mucous membrane is bound down by cicatricial tissue after the Asch operation, two Asch operations and one exostosis have given me opportunity to try the treatment of those cases. In two of the cases I avoided perforation in spite of the fact that there had been cicatrices. In one case there was an unavoidable perforation.

DR. J. F. BARNHILL, Indianapolis—We find the nasal septum deformed in so many ways that it seems to me probable that no one operation could ever prove sufficient for all, and I presume Dr. Freer does not claim that his method would be satisfactory in all cases.

DR. O. T. FREER—I believe this operation is suitable for all cases.

DR. J. F. BARNHILL—I have seen cases in which only a very short time was necessary to set the septum into a new and better position by following the Gleason method, and I should not like to discard this method in such cases, because of its certainty of cure and ease of manipulation. After its performance the reaction is practically absent, and the pain is so slight that it seems almost an ideal operation. The array of instruments shown by Dr. Freer seems rather formidable, and would lead one to the belief that the operation is very complicated. Are most of these instruments required in doing the operation after the method described?

DR. SARGENT F. SNOW, Syracuse, N. Y.—I arise to commend, perhaps, not the special method, but the proposition to resect portions of the septum in certain cases. I am not ready to use the Doctor's method exactly, for I have a method of my own that necessitates dissecting up the membrane only on one side, but it is perfectly practical to resect portions of the septum in selected cases, and Dr. Freer has opened up an important line of thought.

DR. GEORGE E. SHAMBAUGH, Chicago—I saw one of Dr. Freer's cases one month and another one week after the operation, and both were entirely successful.

DR. B. R. SHURLY, Detroit—Is Dr. Freer familiar with the work of Dr. Menzel of Vienna? His technic is largely the same, only it has the additional advantage of suturing the flap after the incisions. The flap is held back by a suture passed over the ear. The operation is completed by sewing down the flap dissected on the lower border.

DR. HENRY GRADLE, Chicago—I would like to confirm Dr. Freer's statements. My own experience in this operation has not been as large as Dr. Freer's because nasal work is only a part of my work. However, my own limited experience confirms the good ultimate results of which he speaks. The operation, however, is not an easy one. It is difficult to save the reflected mucous membrane on either side. After one has done the operation a few times it becomes easier.

DR. J. F. HILL, Memphis—I have had a number of cases in which there was a bony enlargement; it is very difficult to get rid of them, and the suggestions of the essayist seem very practicable. As to the cartilaginous portion of the septum, I don't want anything better than the Asch operation. The breaking up of the septum I do not think is practicable.

DR. OTTO T. FREER—Dr. Barnhill considers my instruments numerous. The reason for this is that many of them are little knives whose blades have varying shapes and attachments to their shanks to enable them to move in the proper directions on the field of operation, which all must reach by the same narrow passage—the nostril. There are 12 of these little knives; 3 forms are represented twice, as rights and lefts for each nostril. Their simple form and cheapness make up for their number. As in Dr. Myles' ethmoid work, a number of instruments is needed with slight change in shape, and I think this is true of many exact operations in narrow places. The Gleason and Asch operations possess the fault in common that they depend on fracturing to complete the work. This means more violence to the patient than by cutting methods, and uncertainty as to the result. The fracturing, if in bone, may create fissures that take dangerous directions. A double sphenoidal suppuration that I have seen follow an Asch operation seemed to me due to a fissuring fracture. Gleason himself advises fracture of the neck of his flap high up, if possible in the bone. From his description he must mean the perpendicular plate of the ethmoid bone, which I think it dangerous to break, considering its connection with the cribriform plate. A number of operators has spoken to me about the tendency to recurrence of the deviation after the fracturing operations. None seemed to feel sure of the perfection of the ultimate result. Fetterolf, in commenting on the Asch and Gleason operations, mentions the tendency to recurrence of the deformity in spite of tubes and pressure, though at the time of operation the result seemed ideal. I have never found suturing necessary, and it would needlessly prolong the operation. In operations on the extreme anterior end of the septum I have used a stitch or two, but they may be dispensed with even here. The credit for first establishing the principles of the complete window resection operation is undoubtedly Krieg's, and prior to his work Ingals describes the first partial resection of the cartilage. Doubtless Dr. Shurly has seen Menzel operate according to the description of the operation by Krieg and Boenninghaus. My methods of performance, especially the rapid exsection of the whole cartilaginous deviation by properly made knives instead of forceps or scissors, are original. The instruments I now use for separation of the mucosa of the concavity from its attachment, the round flat-bladed knives and the long sharp and blunt spatulæ, have shortened the cartilaginous part of the work very much. I do not expect the resection operation to supplant that of Asch. The latter will always be resorted to by the general surgeon who enters special fields without special skill, for the surgeon sins against us far more than the cautious general practitioner, anxious for his patient's welfare. Made bold by successful work in major operations, and a sense of superiority due to the cus-

tom which exalts surgery above the other branches of medicine, the busy general operator is apt to enter fields that belong to the specialties and to do some rather rough work there. While the resection operation will not displace easier methods, I think it should be the operation for the rhinologist, whose neat, exact surgery in the nose should distinguish him from those lacking his special skill.

GENERAL SURGICAL ANESTHESIA.*

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In the light of our present knowledge of practical anesthesia, it is not justifiable to employ any one anesthetic exclusively. The safest anesthesia depends on (1) the choice of the anesthetic best adapted to the individual case; (2) the technic of preparation for and administration of the anesthetic, and (3) a skilful anesthetizer. In a considerable proportion of operative cases the life of the patient depends on the proper choice of the anesthetic and the management of the anesthesia. The recent advances in our knowledge of local and neuroregional anesthesia have materially narrowed the field of general anesthesia.

Almost every kind of operation has been attempted, and more or less successfully performed, under local or neuroregional anesthesia. However, the mere fact that an operation can be performed under local or regional anesthesia is not sufficient justification to do it. The shock to some individuals from even trivial operations under local anesthesia is greater than that produced by a properly selected and administered general anesthetic. This is particularly true in some cases of heart disease, as well as in neurotics. It has been found also that postoperative complications occur fully as often after local as after general anesthesia. That, as a rule, a surgeon can do better work under general than under local anesthesia, there can be no question. Nor can there be much doubt that many of the postoperative complications (septic embolism, etc.) after local anesthesia are due to incomplete operating—unfinished work. In children the local method usually is inapplicable. Lastly, the time of the surgeon and the tax on his vitality deserve some consideration. It is not justifiable for a surgeon to fritter away his time on one or two operations under local anesthesia when he might be doing five or six under general anesthesia, with little or no more danger to the patients.

The general anesthetics which deserve special consideration are: ether, chloroform, nitrous oxid, ethyl chlorid, ethyl bromid and pental.

ETHER.

Physiologic Action.—Ether is primarily a diffusible stimulant, like alcohol in its effects. These effects are more quickly produced and more transitory than those of alcohol. It increases arterial tension and acts as a cardiac stimulant, the heart continuing to beat after failure of respiration, as a rule. On the nervous system it acts as a paralyzant, affecting, first, the cerebrum; next the cerebellum; then the sensory, and later the motor functions of the spinal cord; then the sensory centers in the medulla oblongata; and, finally, the motor centers in the medulla.

Ether is eliminated chiefly by the lungs and kidneys unchanged, and, to some extent, by the liver and skin.

Postanesthetic Effects.—By this term is meant the conditions which become manifest from the time of awakening from the anesthesia until recovery or death.

Blood.—The hemoglobin percentage is practically always lowered by ether, which means that the oxygen-carrying capacity of the erythrocytes is reduced. John Chalmers Da Costa and Frederick J. Kalteyer[1] studied the blood changes induced by the administration of ether in fifty cases. The average count of erythrocytes before operation was 143,360 less per cubic millimeter than after operation. This was undoubtedly due mostly to the blood concentration caused by preparatory treatment (hot bath, active purgation, withholding all food and liquid for some hours preceding operation) and to sweating during anesthesia. The hemoglobin percentage was apparently increased in nineteen cases—the average gain being 8.05 per cent.—and decreased in twenty-eight cases—an average of 7.25 per cent. The average hemoglobin percentage in all the cases preceding anesthesia was 89; the average percentage following anesthesia was 86, showing an average loss of 3 per cent. The color index was reduced an average of over 8 per cent. The average gain in the number of leucocytes per cubic millimeter after anesthesia was 4,586. It is altogether probable that the apparent gain in hemoglobin in nineteen of the cases was due to the blood concentration, and that the whole amount of hemoglobin was reduced in every case.

Kidneys.—There is a difference of opinion as to the effect of ether on the kidneys, but the consensus is that, while it causes more or less irritation during the administration, this effect is of short duration in the kidney not seriously diseased.

By the administration of methylene-blue, it has been demonstrated that ether diminishes the permeability of the kidneys, and it is quite probable that toxic substances are eliminated less rapidly after ether narcosis than occurs with kidneys unaffected by ether.

Clinical experience along this line is conflicting. In a former article[2] I noted that albumin was found in 6 per cent. of 1,500 cases after ether narcosis, where none had been present before. Casts, hyaline, granular and epithelial, were found in a large proportion of the cases, unaccompanied by albumin. The casts and albumin disappeared rapidly. Wunderlich found that albuminuria and casts may be caused by ether, and that both when present before are increased by ether. According to Carl Beck of New York, out of 300 non-albuminuric ether cases 9 per cent. subsequently had distinct albuminuria. Trieber and Roux examined several hundred cases and failed to find albuminuria in any. Körte found albuminuria in 1 per cent. of 600 cases, and Butler once in 500 cases. Robert F. Weir[3] believes that ether has no marked effect upon healthy kidneys, that it is safe in slight kidney disease, and that circulatory disturbance which may arise in the kidneys quickly subsides. Leppman,[4] after an experimental research, confirms the conclusions of Lengemann and others that ether has no special degenerative action on the healthy kidneys. At any rate, such changes occur very seldom and only to a slight degree. The same may be said regarding the liver. I have records of 100 cases where the urine was tested before and after etherization. In one of these a trace of albumin was found after anesthesia where

* Author's abstract of a paper read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

1. Annals of Surgery, September, 1901, vol. xxxiv, p. 329.
2. Medicine, November and December, 1899.
3. New York Med. Jour., Nov. 16, 1895.
4. Mitthellungen aus den Grenzgebieten der Med. und Chirurgie, 1899, Bd. iv, Heft. 1 (quoted by Joseph C. Bloodgood, Prog. Medicine, December, 1901).

there was none before. In no case out of several hundred ether anesthesias was there any noticeable postanesthetic renal trouble. In my judgment, practically all of the especially unpleasant effects of ether on the kidneys have been due to careless selection of cases or bad technic. Cases of anuria have followed ether narcosis in persons suffering from chronic nephritis. In such cases general anesthesia is contraindicated. In advanced nephritis local anesthesia should be employed in preference to general, but if a general anesthetic must be given, nitrous oxid or ether are probably the safest of any. Much depends on the management of the case before, during and after the anesthesia.

Respiratory Tract.—Ether is distinctly irritating to the membrane of this tract and markedly increases the secretion of mucus, the degree of irritation depending much on the technic of administration.

Lung edema is present during the administration of ether and for several hours after, and it increases the possibility of hypostatic and aspiration pneumonias. The danger of aspiration pneumonia is greater where there are suppurative lesions in the mouth and pharynx.

The cases of lung complication following local anesthesia demonstrate that the nature and extent of the operation, especially celiotomies and operations on the mouth, neck and thoracic cavity, contribute to the production of these complications.

Cardiovascular System.—Ether causes a temporary rise in the carotid blood-pressure, followed by a moderate and gradual fall. The capillaries are dilated; the vascular tension increased. It produces no marked degenerative changes in the heart.

CHLOROFORM.

Physiologic Action.—After a brief period of stimulation it acts as a sedative and, in overdose, as a cardiac poison. It was demonstrated by Prof. John A. MacWilliam of Aberdeen that, even when slowly inhaled in moderate quantities and with a good admixture of air, chloroform causes an appreciable dilation of the heart.

Chloroform is eliminated chiefly in the form of chlorids by the kidneys; about a third is excreted as chloroform by the lungs and kidneys. It may also be found in the milk of nursing women and in the fetal blood. Owing to its destructive action on the erythrocytes it produces hemoglobinuria and bilirubinuria. As demonstrated by K. Buedinger,[5] chloroform elimination continues for several days after administration. He found it in the sputa as much as 5 days after administration. Much mucous secretion means slow elimination, the chloroform evidently combining with the mucus.

POSTANESTHETIC EFFECTS.

Blood.—There is little room for doubt that chloroform combines with the erythrocytes, causing death of a considerable proportion of them, and marked lessening of the hemoglobin — the oxygen-carrying element. In 1890, Mikulicz noted that the administration of chloroform may reduce the hemoglobin from 5 to 10 per cent. In 1893, Garrett and Oliver concluded, as a result of experiments, that anesthetics, particularly chloroform, deoxidize the blood and the tissues, thus producing malnutrition and the formation of quantities of waste products, the elimination of which causes a severe, and possibly a fatal, strain upon the excretory glands.

5. Wien. Klin. Woch., Aug. 1, 1901 (quoted in THE JOURNAL Am. Med. Assn., vol. xxxvii, p. 608).

Kidneys and Liver.—Experiments on healthy animals and autopsies on man prove that chloroform produces fatty degeneration of the kidneys and liver. The experiments of Thompson and Kemp apparently indicate that the immediate effects on healthy kidneys are slight, as albuminuria when present during narcosis was slight, and the secretion of urine continued up to the last moment of life. Fränkel called attention to the fact that chloroform sometimes gives rise to fatty changes in the kidneys and liver from which death may result. Wunderlich found, from investigation in 125 cases, that albumin when present was not increased by chloroform, but that albuminuria and casts were not seldom caused by it; that chloroform nephritis occurs. In 70 cases of chloroform anesthesia reported by Patein, 12 per cent. showed albuminuria before, 15 per cent. during, and 73 per cent. after anesthesia. As a rule the albumin disappeared within 48 hours, and the length of the anesthesia seemed to bear no relation to the albuminuria. D. N. Eisendrath[6] reported that albuminuria was present in 15 per cent. of 650 cases after chloroform anesthesia where there was none before, and in 6 per cent. of 1500 cases after ether where none had been present before. Casts were found unaccompanied by albumin more frequently after ether. In over half of the cases there were casts where no albumin was found. Casts and albumin disappeared rapidly, more so after ether than after chloroform. L. Wechsberg of Vienna[7] tested the urine in 100 cases of chloroform anesthesia, finding biliary pigments in 16, and in most of these there was icterus, probably indicating some abnormal condition of the liver.

Respiratory System.—The first effect produced by chloroform is reflex irritation of the vagus through the terminals of the fifth nerve in the nose. The after-effects on the lungs and bronchi are similar to those of ether, only less pronounced. A large proportion of the chloroform taken into the system is eliminated by the pulmonary mucous membrane, and, being heavy, it is eliminated slowly. Besides its direct irritating effect during inhalation and elimination, it undoubtedly lowers the physiologic resistance and leads indirectly to the occurrence of bronchitis and pneumonia.

Cardiovascular System.—Fränkel[8] proved beyond a doubt that fatty degeneration and fragmentation of the heart muscle, both in man and animals, follow the administration of chloroform as an anesthetic. Previous to Fränkel's publication, several observers had noted similar changes in animals after chloroform inhalation. Since then, Ambrosius, Mathen, Bastianelli, Heinz and others have reported cases of the kind in man. Lengemann,[9] experimenting on dogs with definite amounts of chloroform, found that the amount of chloroform given made very little difference in the extent of the fatty degeneration of the different organs. While a certain amount of chloroform must be in circulation before fatty degeneration can be produced, he found that this quantity was always present when sufficient chloroform had been given to produce narcosis. Repeated narcoses increased the extent of the degeneration. A large proportion of the cases where fatty degeneration of the heart was found in man occurred after anesthesias, prolonged for 2 or 3 hours, and this accords with *a priori* reasoning.

6. Chicago Medical Recorder, June, 1897.
7. THE JOURNAL Am. Med. Assn., vol. xxxviii, p. 1340.
8. Virchow's Archiv, 1892 (quoted by Bloodgood, Progressive Medicine, 1901).
9. Beitrage zur Klin. Chir., 1900, Bd. xxvii, Heft 3, p. 805.

NITROUS OXID.

Physiologic Action.—Formerly it was thought that nitrous oxid was merely an asphyxiant, that its anesthetic properties were due entirely to its exclusion of oxygen. It is, however, a true anesthetic, and may be given with an admixture of air or oxygen with the result of producing quiet anesthesia without asphyxial phenomena.

Nitrous oxid is non-irritant, or nearly so, to the respiratory mucous membrane. It causes a positive and rapid rise in the blood-pressure, while there is slowing of cardiac action. Soon the heart beats faster and there is a fall in arterial pressure, due to vasomotor paresis. The respiration is labored and may be arrested by obstructive stertor or spasm of the respiratory muscles. When given without admixture of oxygen it produces asphyxia, manifested by stertorous respiration, cyanosis and dilation of the pupils—and in these cases the anesthetic effects are due largely to the asphyxia. In deep narcosis from nitrous oxid the renal vessels are contracted, the secretion of urine is diminished, and albumin may be found. The gas is eliminated unchanged by the kidneys and lungs.

The after-effects of nitrous oxid are, as a rule, transient; limited to slight dizziness, nausea or headache, lasting a few hours. Occasionally there may be albuminuria or dilation of the heart, the latter continuing for several days.

Nitrous oxid has until recently been employed for short anesthesias only, chiefly for tooth extraction. In 1899 Frederick W. Hewitt[10] published his deductions from observation of 231 cases of nitrous oxid narcosis. Pure nitrous oxid was given in 22 cases; nitrous oxid mixed with different percentages of air, 107 cases; nitrous oxid mixed with different percentages of oxygen, 102 cases. He concludes that when pure nitrous oxid is given the most conspicuous of the anesthetic phenomena are embarrassed and deeply stertorous breathing, cyanosis, and anoxemic convulsion. Other less obvious asphyxial phenomena are dilation of the pupils, swelling of the tongue and adjacent structures, and rapid cardiac action. All these may be eliminated or greatly modified without interfering with the anesthetic effects of the gas by administering it with certain proportions of oxygen, either pure or atmospheric. If the administration be pushed far enough, breathing is arrested by obstructive stertor, by anoxemic convulsion attacking the respiratory muscles, or by both combined. Paralytic cessation of breathing is very rare, and when it occurs is dependent quite as much on cerebral anemia from defective circulation as on the presence of unoxygenated blood in the vessels supplying the respiratory center. The deep and obstructive stertor of pure nitrous oxid narcosis is not met with when employing mixtures containing moderate percentages of air or oxygen, and when the percentage of oxygen is considerable—30 per cent. air or 13 per cent. oxygen—respiration becomes noiseless and free from obstruction.

Nitrous oxid is by far the safest general anesthetic we have. According to H. C. Wood[11] there were but 4 recorded deaths up to 1900 which could be certainly attributed to the drug. Hewitt,[12] however, records 17 deaths positively due to nitrous oxid, and 6 others probably due to it. Obviously, it is not entirely without danger. It is probably within the bounds of fact to estimate the death rate as low as from 1 to 3 in 1,000,000 narcoses.

ETHYL BROMID.

Ethyl bromid is almost non-irritant to the respiratory mucous membrane—by some it is believed to be sedative to this membrane. H. C. Wood found that its action on the heart was about the same as that of chloroform, and death occurs usually from cardiac paralysis. During its administration the skin and lips should not change color, nor the pupils become dilated.

The after-effects are generally limited to slight vertigo, nausea or headache. There is a garlicky odor to the breath for from one to three days after administration.

It is not at all safe to give ethyl bromid for more than 2 or 3 minutes, as longer administration is very liable to cause circulatory and respiratory failure. It is administered in 4 to 12 gram doses without admixture of air.

ETHYL CHLORID.

My experience with ethyl chlorid as a general anesthetic is *nil,* but from the data at hand I am inclined to class it with the more dangerous anesthetics, and would expect it to be especially dangerous in cardiac and respiratory troubles. Benjamin W. Richardson has asserted that an anesthetic is dangerous in proportion to the chlorin it contains, and it may be that his belief was founded on sound principles. Almost every reporter on ethyl chlorid anesthesia mentions a death in the literature. Although several deaths have probably occurred, it is likely that repetitions have occurred in the reports. Lotheisen (1900) reports 1 death in 2,500 cases, while Ware (1902) says that but one death has been reported in over 13,000 cases. He places its safety between that of ether and that of nitrous oxid.[13]

PENTAL.

Administered by inhalation, 8 to 12 grams are usually sufficient to produce anesthesia. Loss of sensibility occurs within 50 to 90 seconds without entire abolition of consciousness, but the effect may be pushed to profound anesthesia. The pupils sometimes dilate widely. Return to consciousness is gradual. Pental has been used little or not at all in the United States, but in Europe it was tried quite extensively some years ago. It has been almost discarded as a practical anesthetic.

EFFECTS OF ANESTHETICS DURING NARCOSIS.

As to ether there is little difference of opinion, nearly all agreeing that in almost all cases its dangerous effects are manifested primarily by disturbances of the respiratory system.

In the case of chloroform the diversity of opinion is great. N. Senn agrees with the second Hyderabad Commission (superintended by Lauder Brunton), that chloroform kills by its effect on the respiratory system. My belief has always been that the bad effects of chloroform were, as a rule, exerted primarily on the circulatory system, and increasing experience and observation go to confirm that belief. The circulatory and respiratory systems are very greatly interdependent, consequently that which affects one will also affect the other. This fact partly accounts for many erroneous interpretations of anesthetic narcosis phenomena. The majority of reports of deaths from anesthetics show evidences of inaccurate observations. Many times this is excusable, because when accidents occur the prime consideration

10. British Med. Jour., Feb. 18, 1899.
11. H. C. Wood, Text-Book on Therapeutics, 1900.
12. F. W. Hewitt, Anesthetics and Their Administration, 1901.
13. American Medicine, vol. iii, p. 1043.

is for the life of the patient and no time can be spared for technical observations. However, the majority of accidents might be avoided by closer attention to details and early recognition of conditions present.

Chloroform Syncope.—Leonard Hill[14] shows that there are two forms of chloroform syncope—primary and secondary—both forms being due to circulatory depression. Practically all observers agree that chloroform causes lowering of blood-pressure at all stages of the anesthesia, excepting momentarily at the beginning. The tracings of the Hyderabad Commission show that blood-pressure falls greatly before respiration ceases, but the Commission claims this has nothing to do with the heart, and that failure of respiration is the primary cause of death. If this be true, artificial respiration should be successful always, for it is well known that if the respiratory center be excised an animal can be kept alive for hours by means of artificial respiration. Lessening of blood-pressure is attributable partly to vasomotor paralysis and partly to cardiac failure. In rapid administration of an anesthetic the circulatory organs are in danger, and in slow administration the respiratory. Ether produces a slow fall of the blood-pressure, and chloroform a rapid.

MIXTURES AND SEQUENCES OF ANESTHETICS.

Both of these have their advocates, and with good reason in selected cases, especially as regards the sequences. These seem to be gaining prestige, especially the preliminary administration of one of the quick-acting and less disagreeable anesthetics—nitrous oxid—and continuing the narcosis with ether. A large number of combinations of ether and chloroform; ether, chloroform and alcohol; ether and alcohol; chloroform and alcohol, etc., have been used and warmly advocated. Morphin given before or during anesthetic inhalation produces mixed anesthesia; as do chloral, chloretone, cocain and other drugs. The weight of opinion is against the use of mixed anesthetics for routine work.

Schleich's Mixtures.—Dr. Carl Ludwig Schleich of Berlin[15] recommends for general anesthesia a mixture consisting of:

℞. Ethyl chlorid .....½ part to 2 parts.
Chloroform .....4 parts.
Anesthetic ether ..... 12 parts.

He records that he has used this mixture in about 5,000 cases without any bad results.[16] Some years ago Schleich gave it as his belief that mixtures of anesthetics of different boiling points are safer than the different anesthetics alone, on the assumption that the absorption of an anesthetic as to quantity depends on its boiling point. The more volatile an anesthetic the slower will be its rate of absorption. Ether, which boils at about 36 C. (97 F.) will be absorbed less rapidly than chloroform, the boiling point of which is about 61 C. (142 F.). He believed that if an anesthetic could be produced with a boiling point the same as the normal temperature of the blood, the exact amount absorbed with each inspiration would be eliminated with each expiration. He thinks that by producing mixtures with maximum evaporation points at different degrees above the blood temperature, we can regulate at will the excess which the expiration would not remove, and thus the amount of anesthetic retained in the blood. In order to accomplish this he added petroleum ether or benzine (boiling point 60 to 65 C.) to ether and chloroform in different proportions. His mixtures for inhalation consisted of three solutions:

No. 1, Boiling Point 38 C. (for Short Anesthesia).

℞.	Ether	℥vi	186
	Petroleum ether	℥ss	15 5
	Chloroform	℥iss	46 5

No. 2, Boiling Point 40 C. (for Medium Anesthesia).

℞.	Ether	℥v	155
	Chloroform	℥iss	46 5
	Petroleum ether	℥ss	15 5

No. 3, Boiling Point 42 C. (for Prolonged Anesthesia.)

℞.	Ether	℥2 2/3	83
	Petroleum ether	℥ss	15 5
	Chloroform	℥i	31

Schleich claimed for these solutions that the anesthetist might be guided, as to the effects of the anesthetic, by the respiration alone; that there was no excitement, no tendency to irritate the bronchial tubes; the pulse had good tension and was never increased, but might be decreased, in frequency; that consciousness was regained more quickly than from ether or chloroform narcosis; and if the solution with a boiling point at about blood temperature were used, only a few respirations were taken before the patient became conscious.

These solutions were received with considerable enthusiasm by a number of American surgeons, among them Henry J. Garrigues, H. Rodman, and Walter Lathrop, the latter using them in 700 cases. Schleich's claims were not sustained in any very important respect, and so far as I know the solutions are not used here. My own experience with them was limited to 15 consecutive anesthesias, in 1898, when I encountered a case which convinced me that the solutions were at least as dangerous as chloroform. I believe the ethyl chlorid mixture will not stand the test of time better than his old mixtures.

Schleich's reasoning, that if an anesthetic could be produced with a boiling point the same as the normal temperature of the blood, the exact amount absorbed with each inspiration would be eliminated with each expiration, is fallacious, because a certain amount of the anesthetic would be retained in the blood and eliminated in part through the kidneys; and, moreover, the temperature of the body tends always to become reduced during anesthesia. In other words, the temperature of the body is not a constant quantity during anesthesia.

I do not believe that any form of chloroform mixture can be made as safe for routine use as ether.

Willy Meyer[17] reports his experience with "anesthol," a new anesthetic which he and H. P. Weidig, Ph.D., of Newark, N. J., have evolved out of the Schleich mixtures. He bases his recommendation of the use of anesthol on his experience with it in "many hundreds of cases operated on during the last 4 years." In this series of cases there was one death on the table directly attributable to the effects of the anesthetic. In this case it appears that respiration and circulation ceased suddenly, as in some forms of chloroform syncope. Meyer states that in all of the surviving cases in which dangerous symptoms occurred, it was the respiration and not the circulation which was especially affected. The anesthesia under anesthol is said to be tranquil, the circulation excellent and, when carefully administered, the respiration easy—much the same as with the original Schleich mixtures.

In my judgment, the great objection to the use of anesthol is that it contains chloroform—and a large proportion of it. Whether the ethyl chlorid contained adds to its toxicity must be decided by further experi-

14. Brit. Med. Jour., April 17, 1897.
15. Berliner Klinische Wochenschrift, vol. xxxviii, p. 269.
16. E. H. Squibb's Ephemeris of Materia Med., January, 1901.
17. The Journal Am. Med. Assn., Feb. 28, 1903, vol. xl, p. 553.

ence with ethyl chlorid as a general anesthetic. Theoretically, I would consider Schleich's ethyl-chlorid-chloroform-ether mixture, above mentioned, decidedly less dangerous than anesthol, owing to the vastly smaller amounts of chloroform and ethyl chlorid contained in the former. Schleich's statistics with his latest mixture show far better results than do Meyer's with anesthol. I do not expect either of these mixtures to attain and maintain the high regard of surgeons in general, nor do I believe that any form of chloroform mixture can be made as safe for administration in routine work as ether.

The administration of morphin before or during an anesthesia by ether or chloroform to produce a mixed anesthesia is sometimes a distinct advantage. Morphin given before chloroform is likely to prevent the dangerous nasolaryngeal reflex and the "stage of excitement." Atropin given before ether administration very materially reduces the excessive secretion of mucus produced by the ether and is a distinct advantage. A hypodermic injection of morphin and atropin, then, before ether or chloroform anesthesia is good practice. Atropin as a cardiac stimulant tends to counteract chloroform depression.

SUCCESSIONS OF ANESTHETICS.

By this term is meant the induction of anesthesia with one anesthetic and its continuance with another.

Ether-Chloroform.—This method of anesthesia is often employed in operations about the face and its cavities, where partial or "talking anesthesia" is desirable. Giving the ether first reduces the amount of chloroform required, and the narcosis is more readily maintained with chloroform than with ether.

Chloroform-Ether.—This method is a favorite with a large number of surgeons. Primary anesthesia is induced with chloroform, which saves time and is less disagreeable to the patient, and the narcosis continued with ether.

Nitrous Oxid-Ether.—This method has become popular in both the United States and Europe, especially in England. The advantages of the method are: 1, the time required to produce anesthesia is reduced to from 2 to 5 minutes; 2, the discomfort to the patient is reduced to the minimum; 3, the nausea and vomiting following etherization are reduced. About the only real disadvantage has been that, on account of the apparatus required, the method was practically limited to hospital practice. However, its mode of administration has been so simplified that the cumbrous inhaler can be dispensed with.[18] An ordinary paper and towel cone open at both ends may be used instead of the closed inhaler. This reduces the danger of asphyxiation and is cleanly and inexpensive. This method of producing anesthesia approaches the ideal when the open method of administration is employed and the ether given drop by drop. With this method there is less change in the conditions to which the body is normally subject than results from any other form of anesthesia.

Nitrous Oxid-Ether-Chloroform.—This method of anesthesia is advised by Frederick W. Hewitt.[19] He bases his recommendation on these grounds: The gas makes the anesthetization easier and pleasanter for the patient; the ether can be administered during the chief part of the operation, and gives the anesthetist little concern, whereas chloroform produces greater quiet and muscular relaxation, and during the administration there is also a comparative freedom from venous engorgement. The danger from chloroform is during the second stage—that of excitement—which is avoided by the employment of this method. The disagreeable after-effects of ether are also avoided. This method is highly commended in operations about the mouth, throat and nose.

Ethyl Bromid-Ether.—This method is being tried somewhat extensively. The chief advantage of the method over the nitrous oxid method is that no special apparatus is required. Four fluid grams (1 fluid dram) of ethyl bromid is poured into a folded piece of gauze held in the palm, over which the fingers are partially flexed, forming a cone, and this is applied closely over the patient's nose and mouth so as to exclude air. Unconsciousness occurs on an average in 40 to 60 seconds. Ether is then substituted, and there is usually little disturbance when the change is made. In from 2 to 4 minutes more the anesthesia will be complete. Less ether is required than in pure ether narcosis, by the amount necessary to produce unconsciousness.

I have tried ethyl bromid-ether anesthesia in a few cases, with results about like the above mentioned. I am, however, unable to convince myself that ethyl bromid is not much more dangerous than nitrous oxid, consequently do not expect to employ the method again unless many thousands of administrations by others shall have demonstrated beyond reasonable doubt that it is as safe as nitrous oxid. There is not sufficient advantage in the ethyl bromid-chloroform method to warrant its employment.

Chloroform-Oxygen.—This method is probably safer than the ordinary chloroform method, but it is difficult to believe it is as safe as Heinz Wohlgemuth[20] implies when he says that he thinks overdose with this method is impossible. He reports 300 narcoses by the method. He uses an elaborate apparatus—in itself an objectionable feature.

CHLOROFORM AND AMYL NITRITE.

During the Civil War this mixture was used very extensively. Four grams (1 dram) of amyl nitrite is added to 1 pound of chloroform. The object is to reduce the danger of chloroform narcosis. The amyl nitrite perceptibly diminishes the cardiac depression of chloroform and improves the capillary circulation, as shown by less pallor. Cyanosis is less frequent than when pure chloroform is used. After observing its use by another surgeon (N. Senn) in a large number of cases I decided to try it. Its use in a few cases convinced me that the mixture is very much less safe than ether, though probably safer than chloroform alone.

PARTIAL OR TALKING ANESTHESIA.

This method is employed in bloody operations about the nose and mouth, instead of complete narcosis and Rose's (head down) position, to prevent blood from entering the trachea. A half hour before beginning the administration the patient is given 2 ounces of whisky or brandy in water, or 15 minutes before, a full dose of morphin hypodermically. The patient is placed with the head and shoulders somewhat elevated and the anesthesia carried only far enough to blunt or abolish the pain-sense, but the patient should remain sufficiently conscious to respond to questions and co-operate with the surgeon in clearing the mouth and throat of blood. This method does away with the necessity for preliminary tracheotomy in certain operations above the larynx.

Primary anesthesia may be advantageously employed for short operations—like the removal of adenoids,

18. Albert H. Miller: Annals of Surgery, 1899, vol. xxx, p. 709.
19. Gould's American Year Book of Med. and Surg., 1902, p. 48.
20. Interstate Med. Jour., St. Louis, October, 1901.

breaking up of ankyloses, thoracotomy, etc. Ether, and not choloroform, should be used, since in chloroform narcosis the time of greatest danger is during the moment when relaxation is occurring, just previous to the beginning of surgical anesthesia.

Nitrous oxid is the best anesthetic for short operations, but it should not (as is often done) be administered with the patient in the upright position, especially for operations about the pharynx, where blood or tissues are liable to be aspirated into the trachea.

ANESTHESIA IN HEART DISEASE.

As a rule, it is only in myocardial affections that anesthetics produce any markedly bad effects. In myocarditis ether is badly borne, and chloroform is dangerous in the extreme. In valvular disease, while there is appreciable disturbance, it generally is not great, and in functional affections the effects of anesthetics are insignificant.

In cardiac disturbances after anesthetics it is often difficult to determine whether the result is due to the anesthetic or to the operation. In some cardiac diseases ether has a temporarily beneficial effect, although the secondary effect may be unfavorable, the symptoms occurring after a lapse of days, perhaps. Ether is contraindicated in the presence of arteriosclerosis and high arterial tension. Nitroglycerin would tend to counteract this danger.

The effect of an anesthetic may, of course, show itself as a postanesthetic edema or pneumonia in these cases. No condition of the heart is an absolute contraindication to the use of an anesthetic, and ether is the anesthetic of choice.

TEMPERATURE CHANGES DURING ANESTHESIA.

All anesthetics tend to lower the body temperature, and the longer the narcosis the lower the temperature and the longer in recovering to normal. Depression of the nervous system and lowering of blood-pressure correspond closely to loss of heat. Ether causes profuse sweating, which, of course, lowers the temperature, the temperature also being lowered by evaporation of the ether. Atropin is useful in these cases as a vasomotor stimulant. The temperature may be lowered by anesthetics over 3 F. Loss of heat may be, to a great extent, prevented by properly covering the patient, by surrounding him with hot bottles, and by being careful to have the operating room at the right temperature (75 to 85 F.)

INHALERS.

There is a multitude of ether and chloroform inhalers on the market, some modeled for the "open method," others for the "closed method" of administration. The Esmarch chloroform mask and the Allis ether inhaler are types of the former, and the Clover and the Ormsby ether inhalers and the Junker chloroform inhaler of the latter.

The asphyxial element enters largely into the production of anesthesia when the "closed" kind of inhaler is used. I believe this adds to the danger. I discard this class of inhalers, as they are dangerous, cumbrous, expensive, and filthy. Take the Clover inhaler, for example. The patient's microbe-laden breath, to say nothing of its other constituents, is passed through the entire apparatus repeatedly, the face-piece is befouled with mouth secretions, stomach contents, etc., and this process is repeated time after time indefinitely. It is practically impossible to asepticize these inhalers, and even if this can be done, certain disagreeable odors can not be eliminated. Possibly, some of the pneumonias attributed to ether can be accounted for in this way. The Junker inhaler is so constructed that the inspired air is charged with chloroform vapor by being forced, by means of a hand-bulb, through the liquid chloroform, after which it reaches the face-piece through a rubber tube. The percentage of chloroform in the inspired air is regulated by the depth of chloroform through which the air passes. Some 12 years ago I employed this apparatus in a few cases—and it has ever since been an especial source of comfort to me that none of the patients died from its use. Only an expert can use the elaborately constructed appliances, and with some of them, like the Junker inhaler, two persons are necessary in order to conduct the anesthesia properly. The paper and towel cone, closed at one end, is open to the following objections: The supply of ether can not be properly regulated; the patient is apt to be asphyxiated into insensibility; the ether vapor is not sufficiently nor constantly diluted with air, and the method is wasteful.

The best type of inhaler, for ether and for chloroform, is one made on the principle of the Esmarch chloroform mask. Lawrence H. Prince of Palmyra, Wis.,[21] introduced this method in Chicago in 1895. It answers the purpose in most cases where ether can be used. The evaporating surface should be somewhat larger for ether than for chloroform, and the covering of gauze should consist of fully twice the number of thicknesses. In high altitudes and when the atmosphere is very warm, the mask should be modified, so as to allow its sides to be covered with a less pervious material —as in the mask devised by Nicholas Senn. Ernest Laplace has still further modified the Esmarch inhaler by covering the cone with metal, leaving ample opening at the top for air. All things considered, the Laplace inhaler is, perhaps, the best on the market. This kind of inhaler is cleanly, since fresh gauze is supplied for each case; it is efficient and safe, and the admixture of air can be easily regulated. I have modified the Laplace inhaler by having attached to the left side a ring for the thumb, which makes it easier to retain in place. The Esmarch or the Schimmelbusch masks can be made practically like the Laplace mask by covering the gauze with oiled silk or other impervious tissue, leaving an opening at the top.

TONGUE FORCEPS AND GAG.

A medium-sized double vulsellum will do less harm if properly used than the ordinary tongue forceps. The former simply makes two punctures, while the latter frequently lacerates and contuses the tongue. N. Senn has devised a tongue forceps, consisting of a lower, flat, fenestrated blade, with an upper, single tenaculum blade. I have modified this forceps by having a double tenaculum blade above and a heart-shaped blade below, instead of the pointed one. (Senn has recently changed his forceps to a double vulsellum.) I want to emphasize the fact that an expert anesthetizer seldom uses the tongue-holding forceps or the gag.

(To be continued.)

21. Chicago Medical Recorder, April, 1897.

Injection of Vaselin in Arthritis.—Delagénière of Mans recently treated a case of painful arthritis without effusion, involving the shoulder, by injecting vaselin. He hoped that it would act as a lubricant and keep the parts from painful contact. His hopes were realized as all pain vanished at once and there has been no recurrence during the three months since. Spontaneous physiologic movements of the joint were possible at once and all trouble from this source has ceased.

VAGINAL EXPLORATORY PUNCTURE AND CELIOTOMY;

THEIR ADVISABILITY IN DOUBTFUL DIAGNOSIS IN DISEASES OF THE FEMALE GENITAL ORGANS; REPORT OF CASES.*

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When some time ago in a discussion on the differential diagnosis of appendicitis, pyosalpinx, extra-uterine pregnancy, tuberculosis of the right tube and exudates in the right iliac region, I heard the opinion expressed by a teacher of gynecology: "What is the use of going into minute details of differential diagnosis in such cases? The abdomen has to be opened anyhow," I was unwillingly reminded of the general who without sufficient reconnoitering led his troops into an unknown valley, and afterward, encountering insurmountable difficulties, met terrific defeat. Though without question the advancements of modern surgery in the last twenty-five years have made an exploratory laparotomy a relatively safe procedure, so far as the immediate and probably the remote safety of the patient is concerned, yet it must not be forgotten that all therapeutic actions ought in every medical as well as surgical case to be based on a strict and correct diagnosis, and that all means and methods of diagnosis ought to be exhausted before reaching definite opinions and conclusions in regard to the therapeutic methods and routes to be employed in the individual case. "Not the idea of making large incisions to overcome difficulties in diagnosis, but the idea that when a surgeon makes a so-called explorative laparotomy he thereby confesses his ignorance, is real surgery and surgery of the future"—these words of Mikulicz[1] ought to be a *mene-tekel* in the operating room of those who, carried *furore operationis* on the diagnosis of a tumor in the abdomen, perform celiotomies regardless of the nature and operability of the disease in question.

In gynecology, bimanual, vagino-abdominal or recto-abdominal examination or a combination of both, enables us to make a diagnosis usually with more accuracy and more ease than in other regions of the abdominal cavity. But there are cases—and every gynecologist of larger experience has seen them—where the differential diagnosis between two or three diseases can only be made with approximative certainty or is even utterly impossible. In many of such cases, chiefly when the Douglas pouch is the seat of the disease, vaginal exploratory puncture, with or without vaginal posterior celiotomy, can not only affirm our up-to-this-point doubtful diagnosis, but at the same time further our decision, first, in regard to the operability of a case; second, concerning the advisableness of the vaginal or abdominal route as operative procedure.

I think nobody questions any more nowadays that vaginal incision and drainage in cases of abscesses of the pouch of Douglas, whether they originate from an infectious process in the uterus following abortion or birth or from a pyosalpinx or an appendicitis, is the method *par excellence;* nobody questions, furthermore, the advisability of the vaginal route for retro-uterine hematocele when infected either by way of the uterus or by way of adherent bowels. So long as we do not know whether the pus in an abdominal abscess is *pus bonum et laudabile;* so long as we are not in the possession of measures to determine the virulence of the bacteria and of the toxins present in the pus focus before operation, so long it must be our duty to open abdominal abscesses —where there exists a possibility—by an extraperitoneal route, that is, in women the Douglas abscesses by posterior vaginal celiotomy.

The diagnosis of such inflammatory exudate masses in the pelvis is, as already pointed out, not always easy. When they lie quiescent for a longer period of time they are often surrounded by a hard and thick shell of tissue, which not so seldom gives the impression of fibroid or, because of their irregularity, of malignant tumor. I observed two cases of retro-uterine exudate, in which the diagnosis of malignant tumor in one and fibroid in the other was made by other colleagues. Vaginal explorative puncture revealed a pus focus in the depth of six respectively of eight centimeters and the therapy; vaginal incision and drainage brought about a perfect cure within from six to eight weeks. It is the hardness and irregularity of such masses which can mislead to the diagnosis of malignant tumors.

That in cases where fluctuation is present in the posterior cul-de-sac, vaginal puncture may be of vital importance, I could demonstrate lately on three cases:

Mrs. R., 24 years of age, nullipara, states that she menstruated regularly and without discomfort since her fourteenth year. Fourteen days ago the menstrual flow was three days overdue and was connected with a sharp pain in her right side. As the flow continued for more than nine days her physician was led to believe that an abortion had taken place and curetted the uterus. Very severe symptoms of peritonitis followed a few days after this procedure: pain in the lower region of the abdomen, elevation of temperature to 103 and pulse 140-150, together with frequent vomiting. When I was called into consultation to this—as the physician stated—absolutely hopeless case, I found the symptoms as above stated, the abdomen was tender all over, but chiefly in the lower portion. Bimanual examination revealed a fluctuating tumor of the size of a man's head in Douglas' pouch, pressing the somewhat softened uterus against the symphysis. As the woman showed no signs of anemia, I was inclined to the diagnosis of pelvic abscess following an abortion, though the irregularity in her menstrual period aroused my suspicion of possible extra-uterine pregnancy. Vaginal explorative puncture, followed immediately by vaginal incision, performed in the so-called exciting stage of ether anesthesia, revealed a large infected hematocele, resulting from a right-sided extra-uterine pregnancy. The patient made a perfect recovery.

Fever in case of ruptured extra-uterine pregnancy does not necessarily include that the hematoma or hematocele is already infected. It is a well-known fact that fever often follows severe hemorrhage, as for instance, hemorrhage from a puerperal uterus, without infection being present. This by the way.

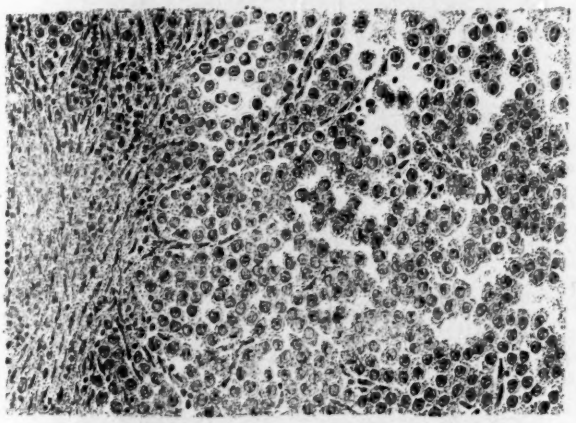
In some cases the diagnosis between an unruptured extra-uterine gestation sac, chiefly when as far advanced as the third month of pregnancy, and pelvic abscess together with pyosalpinx, shows difficulties which can easily be overcome by vaginal explorative puncture.

The experience in a case five years ago, in which all the clinical symptoms, such as irregularity in the menstrual flow, absence of fever, etc., together with the findings by bimanual examination led three diagnosticians of reputation to the diagnosis of extra-uterine gestation of five months' duration, has taught me a lesson which I can never forget. After opening the abdomen in this case a pyosalpinx connected with an enormous abscess was found. In freeing a part of the adherent sigmoid

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

1. Handbuch der practischen Chirurgie, by Von Bergmann, Bruns and Mikulicz.

flexure, the abscess ruptured. General peritoneal infection followed the operation, to which the patient succumbed after forty-eight hours. Vaginal explorative puncture would have revealed the true nature of the disease and thereby indicated the vaginal route for operative procedure. Would vaginal incision and drainage have saved the life of the patient? It is my firm belief it would. Examples of this class have been very numerous, but are usually, unfortunately, not cited in literature. Many have been misled by the somewhat sweeping statement before the American Medical Association at St. Paul[2] that the vaginal operation for abscesses in Douglas' pouch was a dismal swamp procedure, and that vaginal opening was not a surgical operation. The free admission of Noble at Saratoga Springs one year later that through this error many a patient had lost her life which could have been saved by vaginal incision brought surgery back from the "bolder, more spectacular, but deadlier enucleation by the abdominal route," to use Reuben Peterson's words,[3] to the channels of logical sense and logical principles, that is, simple vaginal incision. The following case, in which a diagnosis without explorative celiotomy was absolutely impossible, shows that vaginal posterior celiotomy may in some cases



Round-cell sarcoma of the ovary. (Mrs. W.)

give evidence of the operability or inoperability of a tumor in question.

Mrs. W., 43 years of age, states that she gained in flesh in the last half year and that she felt perfectly well in every respect up to the last three months. At that time she felt a slight pain in the right iliac region, which she attributed to rheumatism. Four weeks ago the pain, accompanied by a slight rise of temperature, increased to such a degree that the family physician was called in. On examination he found three irregular hard tumors varying from the size of a goose egg to that of a small fist, originating from the uterus. Diagnosis: Subserous fibroids of the uterus. After examining her in consultation I confirmed this diagnosis, but suggested in regard to the rise of temperature, that an inflammatory condition, probably originating from the left tube and ovary and lying behind the uterus, complicated the condition.

Abdominal hysteromyomectomy was advised, to which the patient consented about eight days later. After transportation to the hospital, however, symptoms of peritoneal irritation with rise of pulse to 120 and temperature to 102 developed. An examination immediately before operation revealed that the entire situation had changed to a marked degree. The tumors attached to the uterus seemed enlarged considerably and could be outlined on the outer side of the abdomen. On bimanual examination a mass was found in the posterior cul-de-sac pressing down the rectum and bulging into the vagina. Apparent fluctuation was perceivable on one point of this mass. What was the cause of this change?

Three things had to be taken into consideration: First, a pus tube could have ruptured and produced a Douglas pouch abscess bulging into the vagina. This was the most probable explanation because of the rise of temperature. Second, rupture of a blood vessel in a tumor, or in a pregnant tube could have occurred, producing a hematocele. Third, a tumor mass could have broken down. As by explorative, vaginal puncture, no fluid of any kind could be aspirated, the third cause was the only one possible.

Vaginal explorative incision revealed a soft, friable tumor mass originating from the left ovary, which was enlarged to the size of a man's fist and broadly attached to the posterior wall of the uterus. The microscopic examination, as shown in the accompanying drawing, revealed a small round-cell sarcoma of the ovary. It was evident that the other tumors, which had grown so rapidly in the last five weeks and which were adherent everywhere to the surrounding organs, were of the same nature as the specimen examined. As hereby the inoperability of the tumor was demonstrated I pronounced the case as hopeless and advised strongly against further operative procedures.

Dr. Reuben Peterson saw the case later and confirmed in every way my statements. As the family and the patient insisted on giving her a last chance by abdominal operation he operated and found the condition beyond hope. The patient died 52 hours after operation.

It is here not the place to go into details of the pathology of this interesting tumor, as this will be published elsewhere. I would only like to point out here that it is a well-known fact that round-cell sarcoma of the ovary usually affecting both ovaries belongs to the most malignant diseases of the female generative organs, and that the rapidity of their growth is sometimes startling. Chroback[4] observed a case which grew within twenty-three days from the region of the navel to the border of the ribs. A similar case has been described by McBurney.[5]

At the close of my paper I would like to emphasize once more that, as shown on these instructive cases, vaginal explorative puncture and celiotomy is a valuable aid in the differential diagnosis of certain diseases of the female generative organs and may even be oftentimes of vital importance for the surgeon who bases his therapeutic actions on the old Hippocratic law: *Primum nil nocere.*

By its advocation is furthermore demonstrated the wisdom of the old, but in our days, unfortunately, too often violated law: Not to be carried away by every new idea, but to accept only that what appeals to judgment, and I would like to close with the precautionary words often cited by Gaillard Thomas[6] of New York, who, by the way, was one of the first advocates of vaginal celiotomy, as cited by Mackenrodt[7] in his paper: *Ueber den hinteren Scheidenbauchschnitt:*

"Be not the first by whom the new is tried,
Nor yet the last to lay the old aside."

Post-Graduate Hospital.

DISCUSSION.

DR. H. J. STACEY, Leavenworth Kan.—We see many cases in which a vaginal puncture or free opening would relieve the condition and is without danger, whereas an abdominal section is out of the question. The occasional operator would take a chronic case and perhaps do well by the abdominal route; but the patient is frequently in too dangerous a condition for a major operation, at least in our hands, because we operate too slowly; but by draining first we can very

2. THE JOURNAL A. M. A., July 6, 1901.
3. Amer. Jour. Obstet., 1902, p. 810.
4. Wiener med. Blätter, 1898, No. 23.
5. Annals of Surgery, June, 1895.
6. Amer. Jour. of Obstet., 1903, p. 504.
7. Sammlung klinischer Vorträge, No. 156.

safely and easily do the major operation later by the abdominal route and save many lives in that way.

DR. D. H. CRAIG, Boston—I think cutting through a wall 8 to 10 cm. in thickness should be kept distinctly out of the field of vaginal opening. When we have pus so firmly walled off as that it is perfectly safe to go through the abdominal wall, then we can clean it out thoroughly and make a complete cure instead of leaving the patient with a lot of material to absorb. As regards the occasional operator, I think the vaginal route is better for him, providing he is sure of his technic. But no man can do more harm than the occasional operator going through Douglas' cul-de-sac into the abdomen. The posterior or anterior cul-de-sac operations are not, as a rule, curative. They are palliative, and if the occasional operator will take that route and do these operations it is incumbent on him to advise his patient of the fact that he is doing a palliative operation and that other work may be required by some one who is not an occasional operator.

DR. J. H. CARSTENS, Detroit—I wish the essayist would say "opening" instead of "puncture." A "puncture" means a little bit of an opening, and to my mind the opening can not be too big. A little one closes up right away, and you must do your work again. Make a good, big opening, and give Nature a chance.

DR. C. O. THIENHAUS—When I have a hard mass lying in the cul-de-sac of Douglas, and the diagnosis, whether or not this hard mass contains a focus of pus, can not be ascertained by other means, I advocated in my paper exploratory vaginal puncture for this purpose, and if I find pus I drain by way of the vagina. Dr. Craig says it is better to open the abdomen in such cases. Clinical experience has shown evidently that it is not. When you can not before operating determine the virulence of the bacteria present in the pus, you are liable, when a little of this pus contains highly-virulent infectious material, to see your patients die promptly. When bacteriology is so far advanced that we can determine with absolute certainty the grade of virulence of the bacteria in the pus focus, then we can differentiate and state in what cases abdominal section may be done without fear of infecting the general peritoneal cavity. But up to this time it is always better to be on the safe side and to open intraperitoneal abscesses, where there exists a possibility, by an extraperitoneal route. When the speaker says that cases of double pyosalpinx of gonorrheic origin do not heal by simple vaginal drainage, I would like to cite the statistics of Treub, who states that from 79 cases 44 were radically cured by simple vaginal drainage without further interference. I am sorry that Dr. Carstens misunderstood me. Naturally, when the puncturing needle has demonstrated the presence of pus, the vaginal incision must be as large as possible to establish free drainage.

CARCINOMA AND TUBERCULOSIS TREATED BY THE ROENTGEN RAYS.

G. E. PFAHLER, M.D.

Formerly Assistant Chief Resident Physician in the Philadelphia Hospital, Assistant Physician to the Medico-Chirurgical Hospital, Skiagrapher to the Medico-Chirurgical Hospital, Lecturer on Terminology and Symptomatology, and Demonstrator of Physical Diagnosis in the Medico-Chirurgical College.

PHILADELPHIA.

As a basis for the conclusions to be drawn in this paper, I have selected nine cases, each illustrating some special point of interest. I have omitted many of the details which would be of little interest to the general practitioner.

CASE 1.—Mrs. K. E., aged 84 years. Referred by Dr. Ulrich of Chester, Pa. The diagnosis was carcinoma of the right breast. Operation was contraindicated on account of the patient's age and on account of the condition of her heart. The growth was of one year's duration. There was a distinct retraction of the breast below the nipple, making a groove about two and a half inches in length. In connection with this there was a hard mass about the size of a hen's egg. Surrounding this central mass there were other masses of lesser size and of less density. The overlying skin was healthy. There was no axillary or supraclavicular involvement. Treatment was begun April 20, 1903, and exposures were given daily for two weeks. Each exposure was of ten minutes' duration, at a distance of 15 inches, with a high vacuum tube and 3 to 4 ampères' current. The treatments were then given three times a week for six weeks, then twice a week for ten weeks, and once a week for 2 weeks. She had 57 treatments in all. The length of each exposure was gradually increased from 10 to 25 minutes. After the first week there was improvement in that the semi-solid masses disappeared. At the end of two weeks the central mass seemed to be a little softer. From this time there was

Fig. 1.—Case 4. Before treatment by *x*-ray, May 25, 1903. Sarcoma of orbit. Scar due to an operation.

constant improvement, the mass gradually became softer and smaller until it disappeared.

The points of special interest in this case are the early and constant improvement, and the absence of any dermatitis in spite of the unusually long exposures. In no other case have I been able to give nearly so long an exposure without producing a marked dermatitis. As a whole, it is one of the most remarkable cases that I have seen.

CASE 2.—Mrs. K. J., aged 40 years. Diagnosis, recurrent carcinoma of the left breast. She had been operated on twice by Dr. Sanford of Memphis, Tenn. The first operation was performed one month after the growth was first noticed, May 7, 1900. A growth reappeared one year later and was removed December, 1901. A recurrence developed in July, 1902. *X*-ray treatment was begun in October, 1902, at which time there was

an induration involving the entire scar and about one inch on either side, with nodules in the axilla and the left supraclavicular region. There was also an induration in the right breast. Both mammary, axillary and supraclavicular regions were treated. Seventy-five treatments in all were given, between October 11 and May 31, when the carcinomatous tissue seemed to have disappeared. Treatments have been given since that time at intervals of two to four weeks for the purpose of preventing any recurrence or any involvement of the mediastinal glands. The patient's general health before treatment was failing and she was not expected to live six months. Her general health improved while under treatment. A dermatitis was produced on two occasions, each of which seemed to be followed by distinct improvement.

CASE 3.—Mrs. J. W., aged 48 years. Recurrent carcinoma of the left breast. She was operated on by Dr. Wharton in June, 1902, one month after the growth was first noticed. The whole breast and axillary glands were removed. A recurrence was first noticed in November, 1902. *X*-ray treatment was begun Jan. 22, 1903. At this time nodules from the size of a pea to that of half a walnut were found scattered through the field of operation. A small indurated gland could be felt in the left supraclavicular region. Twenty-six treatments were given between Jan. 22 and April 7, 1903, when a burn of the second degree had been produced. The growth had lessened very much, both in size and induration. Treatment was discontinued. The thyroid gland, which was large at the beginning, now grew rapidly and the patient developed the symptoms of exophthalmic goiter. She was taken to the Presbyterian Hospital, where the burn healed, the thyroid gland decreased rapidly in size, and the general health improved. The patient then developed pain in the axilla, and Dr. Newcomet reapplied the rays, which produced another burn that developed after leaving the hospital. I advised her to go to the seashore and allow the burn to heal. While there a recurrence developed on the site of the burn without the burn healing.

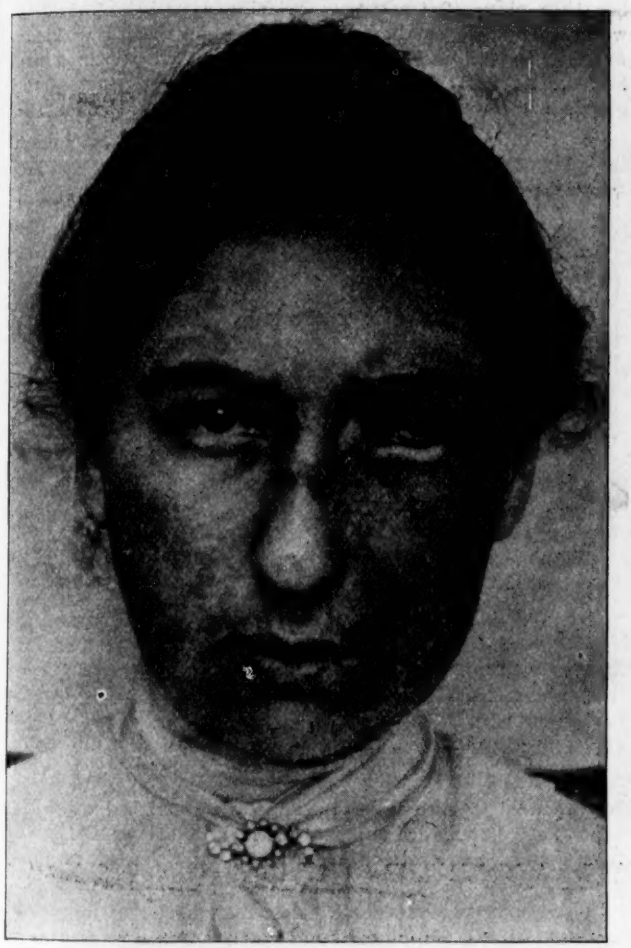


Fig. 2.—Case 4. After thirty-four treatments. July 16, 1903.

This case to all appearances was similar to Case 2, but the results have been very different. It is an instructive case, because of the idiosyncrasy against the rays, since less rays were used than on either of the two previous patients. It also shows that a severe burn is no proof against carcinoma; also, that it is wrong not to keep a case under observation while a burn is healing, and that even when a good result is obtained the case should be watched.

CASE 4.—Miss D. B., aged 16 years. Referred by Dr. L. Webster Fox. This was a case of retrobulbar sarcoma, the diagnosis being confirmed by microscopic examination. The antrum of Highmore had been previously curetted by Dr. E. B. Gleason. The growth again rapidly infiltrated the sinuses. The patient had been examined by Dr. Walter Freeman. She had also been examined by Dr. W. L. Rodman, who refused to operate and advised *x*-ray treatment. No one expected the patient to live. At the time of beginning treatment the patient was too weak to stand, complained of severe headache and pain in the eye. There was a marked bulging of the eye from the orbit and a protrusion of the conjunctiva. The case was treated daily with five-minute exposures, with a high vacuum tube, and 3 to 4 ampères of current, at a distance of 12 inches. At the end of a month the swelling had almost disappeared, the pain was less, and the patient was well able to walk around and left the hospital. There had been an erythema present for two weeks. She was then treated twice a week for a month, at the end of which time she could open her eye slightly, and felt fairly well. She was then treated once a week for two

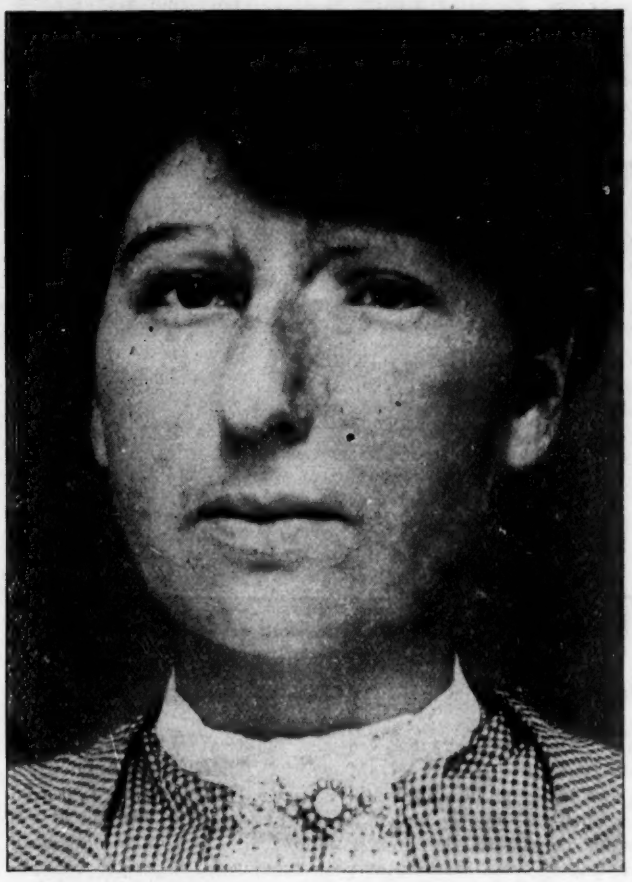


Fig. 3.—Case 4. After forty treatments. Aug. 27, 1903. Scar due to an operation. Sight not disturbed.

months, when she was apparently well, except for occasional pain in the region of the inner canthus. She is still being kept under observation and occasional treatment. There was no loss of sight.

This case is important (1) because it was a sarcoma; (2) because of its extensive infiltration; (3) because of its prompt and constant improvement; (4) because there was no injury to the organ of sight as a result of the treatment.

CASE 5.—Mrs. A. S., aged 69 years. Epithelioma of the face. Referred by Dr. J. M. Anders, July 3, 1903. During the previous two months an epithelioma had been developing on the right side of the nose, and extended on the bridge of the nose. It was completely removed by 20 exposures, covering a period of two months. The cosmetic result is perfect. There is no scar, and the skin is smooth and of a pink color.

CASE 6.—Mr. S. G., aged 60 years. Epithelioma of the mucous membrane. Referred for *x*-ray treatment by Dr. Hollopeter. Ten years ago a warty growth developed on the lower lip. He began treatment at a sanatorium near Boston, July, 1900, where caustics were used. He remained there 18 months, at the end of which time he came to Dr. Hollopeter and was referred to me. His mouth could then not be opened except to admit the little finger, and this gave him severe pain. The growth involved the right angle of the mouth and the greater part of the cheek. There was an enlarged gland in the right submaxillary region. The gland disappeared in about a month under treatment, but the growth itself, being mostly in the mouth, slowly but gradually increased in size and the amount of pain increased. The case was inoperable from the first, but the rays had little influence except perhaps to slightly retard the growth. Ninety treatments were given.

Fig. 4.—Case 8. Tubercular ulcers of the leg, March 3, 1903, before *x*-ray treatment.

Cases 5 and 6 are important because of their differences. In Case 5 the epithelioma was entirely superficial, involved the skin, had never been tampered with by caustics, was treated early with the *x*-rays and yielded promptly with perfect results. In Case 6 the epithelioma was not entirely superficial, involved the mucous membrane, had been tampered with by caustics for eighteen months, *x*-ray treatment was begun late, after the growth had started to spread, and a long course of treatment was given with practically no results.

CASE 7.—Miss A. N., aged 20 years. Tuberculous adenitis. Referred by Dr. Ernest La Place. She had had tubercular adenitis for nine years and had been operated on by Dr. La Place three years ago, and again one year ago. She was referred for *x*-ray treatment Feb. 9, 1903, on account of swelling of the glands on both sides of the neck and because of an indurated scar on the right side of the neck. After 10 treatments the scar and the glands were softer. After six weeks and 15 treatments the scar had almost faded and the glands were almost imperceptible. After 5 months and 34 treatments the glands were imperceptible, and the scar was soft, pink and barely noticeable.

CASE 8.—Miss J. F., aged 16 years. Referred by Dr. W. L. Rodman, March 3, 1903. Diagnosis, tuberculous adenitis and tuberculous ulcers of the legs. She was operated on by Dr. Rodman one year ago, when the glands were completely removed from the left side of the neck, from the lower portion of the right side of the neck and from the right axilla. At time of beginning treatment there was enlargement of the postcervical glands and a distinct enlargement just below the right ear. There were also three ulcers on the right leg, varying in size from one inch to two inches in diameter. She has been given 40 treatments covering a period of eighteen weeks. The two smaller ulcers on the leg healed within a month. In six weeks the largest gland had ruptured and healed. At the end of four months the enlargement of the glands had disappeared. The largest ulcer on the leg had been reduced to one-third its original size, and had a healthy appearance, but needed support of the circulation. Dr. Burns then applied an elastic cast and the ulcer healed in three weeks.

Fig. 5.—Case 8. Oct. 12, 1903. Ulcer healed, scar still red.

The above two cases are important because they show undoubtedly a good influence of the rays on the tuberculous glands and ulcers.

CASE 9.—Miss K. B., aged 30 years. Referred by Dr. La Place, under whose care she had been for fifteen years. Diagnosis, lupus vulgaris. At the time of beginning treatment, the diseased area covered the greater part of the anterior portion of the face and the entire nose. A distinct reaction was produced in two weeks by 7 exposures. Following this reaction the tubercles were leveled to the skin and desquamation took place. She has been given 18 treatments in four months, and is practically well.

I report this case because of a very interesting and remarkable coincidence. For eight years previous to beginning treatment, the patient had been very deaf, so that it was difficult to make her hear. At the end of the course of treatment, she could hear ordinary conversation. This remarkable result was unthought of and, therefore, no accurate observation had been made before treatment; but eight years ago a specialist in

New York had examined her and pronounced her deafness incurable. This result suggests that the rays may be of value in some forms of deafness.

In conclusion, I am convinced that:

1. The *x*-rays are of undoubted value in the treatment of certain cases of both superficial and deep-seated carcinoma and tuberculosis.

2. The more a case has been tampered with, the less likely it is to yield to the influence of the *x*-rays, *e. g.*, Case 6.

3. Daily treatments carefully and properly given will produce the best results, *e. g.*, Cases 1 and 4.

4. We should try never to produce a dermatitis beyond a simple erythema.

5. There are idiosyncrasies in certain people which render them most susceptible to the *x*-rays, and in these people deeper burns may occur in spite of the most careful treatment, *e. g.*, Case 3.

6. Epithelioma involving the mucous membrane is much less likely to yield to the effect of the *x*-rays than when it simply involves the skin, *e. g.*, Case 6.

7. There is not likely to be any interference with the sense of sight, even though the *x*-rays are used directly over the eye, *e. g.*, Case 4.

8. Tuberculosis, whether of the skin or of the glands, will yield at least in certain cases to the effects of the *x*-rays, *e. g.*, Cases 7, 8 and 9.

9. The *x*-rays may be of value in certain cases of deafness.

10. The *x*-rays will give better cosmetic results than any other form of treatment in simple epithelioma of the face, *e. g.*, Case 5.

11. Epithelioma of the mucous membrane should be removed as early as possible by the knife, and this followed by *x*-ray treatment.

12. Operable cases should be operated on and in each instance followed by a course of *x*-ray treatment, and *x*-ray treatment should be given at the first sign of a recurrence.

13. Inoperable cases should be given a trial with the *x*-rays, since even hopeless cases sometimes yield to this form of treatment, *e. g.*, Case 4.

14. It is desirable to produce a distinct reaction in the treatment of lupus, *e. g.*, Case 9.

Clinical Reports.

TWO CASES OF TRANSITORY COMPLETE BLINDNESS OF BOTH EYES.*

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IDIOPATHIC OPTIC NEURITIS.

CASE 1.—Mrs. K. S., aged 32, has been married eleven years, and is apparently in robust health. She has given birth to two children, both of whom are living and in good health; the younger is 4 years old. Patient has always been in good health. No history of syphilis. For some weeks she has suffered more or less from frontal headache.

She came to the Newark Eye and Ear Infirmary for the first time Dec. 22, 1901, complaining of loss of vision of left eye and impairment of vision of right eye. The examination made at this time showed that the exterior parts of the eye were perfectly normal in appearance, and that the movement of the eyes were unimpeded in any direction. On closer examination it was found that the left eye was blind; this eye could not distinguish between light and darkness. The pupil of this eye was larger than that of the right eye and it did not react to light. It did, however, respond to light thrown in the right eye. The ophthalmoscope showed clear media and a well-marked papillitis. The optic disc was swollen and apparently enlarged. The retinal veins were full and tortuous, while the arteries were of about normal caliber. The retina immediately surrounding the disc was hazy, but otherwise it was normal. The right eye also showed swelling and enlargement of the optic disc, but not quite so marked as that of the other eye. The retina was transparent except very close to the optic disc. The pupil of the right eye was of normal size and responded readily to light. The sight of this eye was reduced to 5/12. An examination of the urine showed it to be free from albumin and sugar. Close questioning failed to reveal disease in any other part of the body.

She was given iodid of potassium in small doses. She was seen again the next day, when it was found that both eyes were now totally blind. She could not recognize the light of a candle held close to her eyes. The swelling of the optic discs had increased. Their surfaces were best seen with a +3 dioptric glass. The pupil of the right eye was now as large as that of the left eye, and neither pupil reacted to light.

She remained in this condition until December 28, when she could distinguish between light and darkness. December 30 it was found that the pupil of the right eye responded very sluggishly to light, but contracted in convergence. The pupil of the left eye responded even more sluggishly than the right eye to light, but also contracted in convergence. She can see movements of hands in front of her eyes, but can not yet count fingers close to her eyes. She was at this time taking fifteen grains of the iodid of potassium three times daily.

Jan. 8, 1892, it was found that the pupils of both eyes reacted to light in convergence fairly well. The vision of both eyes remained about the same as at last, January 14. Can now count fingers with either eye at four or five feet. She still has frontal headache. The optic discs are less swollen and the retina adjoining the disc is more transparent.

January 22: Her vision is now 5/18 in the right eye and 5/36 in the left. The visual field is intact in both eyes. She is taking twenty grains of the iodid three times daily. After this time her vision gradually improved so that on February 5 it was 5/9 in either eye. The discs were now almost flat and quite white. The headache had subsided.

March 15 her vision was about normal in both eyes and the visual field intact in both. During the following five years I saw the patient at intervals of several months and always found her in good health. Her vision when I last examined her five years after the attack was normal in both eyes and so were the visual fields. Her health was excellent. I have been trying to find her since, but have not succeeded in so doing.

The absence of the pupillary light reflex for a while made it probable that the seat of the lesion was in the visual tract, this side of the corpora quadrigemina.

The visual centers may also have been involved, but this can not be proved, as the conduction of visual impressions was interrupted by disease of the tract. The ophthalmoscope showed the existence of a marked optic neuritis in both eyes. Cases in which an optic neuritis has caused total blindness of both eyes and in which the pupillary light reflex was absent for a time, with subsequent restoration of normal vision, and very seldom encountered. With the exception of a frontal headache my patient was in excellent good health at the time the optic neuritis developed, and as she remained in good health during the next five years it seems reasonable to assume that the eye disease was not the result of a general affection which was latent when she became blind.

AMAUROSIS, PROBABLY FROM AUTOINTOXICATION.

CASE 2.—Mrs. S., aged 52, stout, of typical bilious temperament, is subject to frequent attacks of headache; is constipated most of the time; is fond of rich food and indulges freely in eating.

July 27, in the evening, she was attacked with a sudden intense pain in the head, with nausea and vomiting. The attack was so severe that her attending physician was obliged to give her ¼ grain of morphin hypodermically. She was re-

* Read at the one hundred and thirty-seventh annual meeting the Medical Society of New Jersey.

lieved in about half an hour. Calomel and Warburg's tincture were given next morning, but did not act well. In the evening of this day, at about the same hour as on the previous day, another severe attack of headache came on and another dose of morphin was given her, which gave her some relief.

On the morning of the 29th she was given one ounce of Warburg's tincture, and in the evening she received ten grains of quinin. She had no attack of headache on this day.

On the 30th, in the evening, she had another very severe attack of headache. In the morning of this day she had taken ten grains of quinin and ten more in the evening. During the night of the 30th she noticed that her vision was becoming impaired, and on the morning of the 31st she was totally blind in both eyes. Pupils reacted but feebly to light. I saw her for the first time shortly after noon on this day. She acted like a person who was absolutely blind and was quite self-possessed. I found that the movements of the eyeballs were unimpeded in any direction. She was unable to recognize the position of a lighted candle held but a short distance from her eyes. The pupils of both eyes responded readily to light and in convergence. The ophthalmoscope showed absolutely normal eye grounds. In one of her eyes she had a patch of opaque nerve fibers such as is frequently seen in eyes with good vision. There was absolutely nothing hysterical about the woman. I feel very confident that she did not exaggerate her impairment of vision. The hearing was normal. I made a favorable prognosis. An examination of her urine showed it to have a specific gravity of 1030; it contained a trace of sugar, but no albumin. The quantity of urine passed during the day preceding the blindness is not accurately known, but it was said to have been of the usual amount. The bowels had not moved freely for some days, although sulphate of magnesia in large doses had been administered at frequent intervals. A high enema was given shortly after I saw her, which brought away a quantity of fecal matter, in which, on examination, were found seeds of berries eaten two weeks before. The total blindness continued for thirty-six hours, and then gradually her vision returned in both eyes. There was no rise in temperature during the attack, but on the day following her temperature rose to 102. A week after the attack her vision was as good as before the attack, and the visual fields were of normal extent for white and colors in all directions.

All our efforts to find a cause for the sudden blindness was fruitless. She has no disease of the kidneys. Habitual constipation, for which she always was taking cathartic mineral waters, was about the only abnormal condition which we could discover at the time. She has been in her usual good health ever since.

That this was a case of amaurosis from some kind of intoxication there can be no doubt. But as to whether it was due to a poison introduced into the body from without or whether the poisoning was the result of an inadequate physiologic elimination of the product of the tissue metamorphosis or of the formation of a poison in the intestinal tract due to abnormal processes of decomposition or fermentation, must remain in doubt. That the poison was not introduced from without seems, however, pretty certain. Neither the food of which she had partaken nor the drugs which had been administered can be held responsible for the eye affection. We know that quinin in comparatively small doses will occasionally produce blindness, but both the clinical features and the absence of all change in the backgrounds of the eyes, as well as the subsequent history of the case, show that this drug was not the cause of the blindness. The absence of disease of the kidneys probably eliminates uremia as the cause of the amaurosis, though it must be admitted that this attack closely resembles in all its features the blindness known to occur in this affection. In one of the examinations of the urine a trace of sugar was found, but only once, and none has been found since the attack. With the exception of habitual constipation, there is no evidence of the presence of a morbid affection of the digestive tract, and yet the most plausible explanation seems to me to be that the toxin which caused the amaurosis was formed here through putrefactive changes of the contents of the intestinal tract. As to the part of the visual apparatus affected in this case, there can be no doubt. The blindness with prompt pupillary reaction to light established the fact that the optical centers were the seat of the lesion. But as to whether it was an edema of the meninges or an affection of the brain itself no one can tell. There are very few cases on record similar to the one here described, and in most of these the absence of albumin in the urine was not positively excluded. I am indebted to Dr. Cladek of Rahway for notes of the previous history of the case.

To recapitulate: In both of the cases above reported the blindness was due to an affection of the nervous visual apparatus. In the first the seat was in the conducting apparatus, as was manifest from the fact that the pupillary light reflex was absent during a part of the time that the blindness existed. In the second the seat of the lesion must be looked for in the optic centers, as the pupils reacted promptly to light while total blindness was present. In both cases the vision was completely restored. It is doubtful that the treatment adopted had anything to do with the restoration of the sight in either case.

I. PROLONGED INTUBATION. II. ESOPHAGOTOMY FOR A DENTAL PLATE. III. LARYNGECTOMY FOR CARCINOMA.*

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I.—A CASE OF PROLONGED INTUBATION.

One of the rarest accidents following intubation for diphtheria is stenosis, which results from pressure ulceration of the subglottic region and is very difficult to remedy. There are, perhaps, half a dozen cases on record; several made complete recoveries. One of these is as follows:

Intubation.—Rosa McGlynn, aged 6, was taken sick with diphtheria in December, 1901, and in a very few days required intubation. Being otherwise engaged, I sent my assistant, Dr. James E. King, to perform the operation. A week later the tube was removed, but had to be replaced immediately. Several days thereafter I removed the tube, but within a very few minutes had to replace it. This occurred frequently for several weeks. In order to keep better watch of the child I had her removed to the Riverside Hospital, and there the tube was removed and replaced off and on for several months.

Excision of Stricture.—Being satisfied that intubation would do no further good, especially since it had become necessary to use a one-year tube, I split the larynx completely and found a fibrous stricture below the vocal cords in the subglottic tissue. This was cut out and considerable granulation tissue removed with a sharp spoon, and a silver tube passed up from the tracheal wound between the vocal cords and the larynx, and a tracheal tube downward through which the child breathed. These tubes were left in for some time, when intubation was again resorted to, but gradually the lumen was again diminished until it became very difficult to insert a one-year tube. The larynx was opened a second time and the stricture removed as before. The upper or laryngeal tube was not replaced, but the lower or tracheal tube was allowed to remain for several weeks. Intubation was intermittently performed during this time.

Course.—After a while the tracheal tube was removed and the child allowed to go several days without a tube, but occasionally she had to be intubated, on very short notice. The interne was instructed to be on his guard either to intubate or to do tracheotomy on a moment's notice. About 2 o'clock one morning he was suddenly summoned and found the child suffocating. Dr. Weed hurriedly opened the trachea and the danger was tided over once more. After that I opened the larynx for the third time, removed the stricture again and

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen.

continued to intubate with a large tube at lessened intervals until June, 1902. The child had now been intubated, during six months, over fifty times by Dr. King, Dr. Weed and myself, and tracheotomized half a dozen times. She was retained at the hospital several weeks after the last time the tube was removed, when her mother took her home.

After we had not heard from her for six months, we called on her, and found her in good health, grown fat, and her voice in perfect condition.

The patient came under my care while I was city physician. The family was poor and the surroundings very unclean, so she was removed to the hospital. We had several times intended to send her home with the tracheal tube, but for one reason or another she was kept at the hospital until finally it was thought safe to let her go with her mother.

Comments.—This case is another illustration of what perseverance may accomplish. Ordinarily after two or three months such a case would have been abandoned as positively incurable, and the child would have to wear a tracheal tube all her life. Dilatation certainly would have been practiced, but without avail. The stricture was altogether too firm to yield to pressure. Each time after the radical treatment the child reacted remarkably, in fact was up and playing the very next day.

We had all sorts of tubes made, of different sizes and shapes, without the slightest benefit. It is very seldom that intubation can be shown a class of students. I therefore thought this a good opportunity to demonstrate the operation, the little patient always being in readiness. Tubes were tried from six years down to one, but to my chagrin, and apparently to the students' amusement. The smallest tube could not be forced through the larynx. The result was more trying because I had told the class (about forty in number) how simple an operation it was. Not until long after the boys were being entertained by another teacher did I succeed. Two men from out of the city were in attendance at the lecture; after watching the performance a while they finally left in disgust. Failure to replace the tube, however, was a common experience to Dr. King and myself. We sometimes tried ten or a dozen times without accomplishing our object, only desisting when the child became exhausted.

This case is worth reporting on account of its rarity, as well as showing the recuperative power of the larynx.

II.—ESOPHAGEAL OBSTRUCTION CAUSED BY SWALLOWING AN UPPER ALVEOLAR PLATE.

History.—Woman, aged 35, had worn an upper alveolar plate of hard rubber containing on one end one, and on the other end two teeth. The outer one of the two had been separated from the plate leaving the two pins which held it exposed. The plate had sharp edges throughout. It was worn by the woman continually day and night for fifteen years without ever becoming displaced.

One day while at dinner the plate suddenly became loosened and was carried down the esophagus with a bolus of food. It caused her considerable pain, for the relief of which she sent for her physician, Dr. Hugh McIntyre, after having ineffectually tried to dislodge it. He called me in consultation. I advised having the plate located by means of the *x*-rays, which was done by Dr. Fred Preiss. The plate was found immediately behind the sternal notch. The center of the plate was two and one-quarter inches below the thyroid cartilage. The teeth in the plate were anterior; curve of plate was downward; ends of plate were lateral; higher on the right side than on the left by one quarter of an inch.

Operation.—Dr. Kenerson, a surgeon, was asked to see the patient, and the woman was informed that the plate would have to be removed by operation, to which she readily consented. She was removed to the Riverside Hospital. I made an incision on the outer side of the trachea and separated the tissues between the muscles and carotid sheath until I came down to the esophagus, which was properly located and opened. Dr. Kenerson then introduced through the esophageal opening a pair of forceps and gradually and carefully drew the plate into view, which I then grasped and rotated through the wound. The esophageal opening was then sutured and the rest packed with gauze. We anticipated a fistula, therefore did not entirely close the outer wound. Two days after the operation saliva passed out of the wound, which continued for nine days, when the wound closed. No food had passed down the esophagus during that period.

Course.—The patient was very much emaciated at the time of the operation, having had the care of four little children, one of which she was still nursing. There was, of course, some doubt about the woman's recovery because of her extreme debility. She was nourished by rectal injections and cod-liver oil baths until the esophageal fistula closed. It was carefully dressed after the second day, to heal it up as rapidly as possible. She took very kindly to nourishment. At the end of three weeks she was discharged cured, vowing never again to wear another plate.

III.—PARTIAL EXTIRPATION OF THE LARYNX FOR CARCINOMA.

History.—Mrs. S., aged 55, complained of hoarseness for the past year, breathing then became so oppressive that she finally sent for Dr. Weil, who treated her for two weeks, when he sent for me to examine her throat. I found a large growth involving the entire left lateral thyroid cartilage and infiltration of the right arytenoid.

Tracheotomy.—The examination produced a spasm of the glottis and I thereon proposed tracheotomy, but the patient's son being informed of the necessity of cutting a hole in her throat, positively refused to have this done. I therefore left word to send for me when they were ready to have the windpipe opened. The next day I was summoned, and, after injecting a small quantity of a 1 per cent. solution of eucain, opened the trachea without much difficulty.

Up to the time of the operation she had had seven or eight spells of suffocation every night for two weeks, her pulse was very rapid and she was extremely weak and emaciated. A week after the tracheotomy she had improved so much that I was enabled to remove a small piece of the growth for microscopic examination. This was made by Dr. Bentz of the Pathological Laboratory of the University of Buffalo, and he reported as follows:

"*Microscopic Examination.*—Parts of the tissue are covered by stratified squamous epithelium. The epithelium dips down deeply into the tissue (fibrous) beneath. The epithelial cells have broken through the basement membrane and infiltrated the tissue, along the lymphatic clefts. These infiltrations are in the form of columns or groups of small and large spherical cells, atypical epithelium. Hyperkeratosis, hyperchromatosis, and mitosis were found in the cells. In some groups the cells show cornification and flattening and are arranged concentrically forming so-called 'pearly bodies' or 'cell nests,' characteristic of epithelioma. There is a marked inflammatory process in the tissue between the groups of atypical cells, as is shown by round cell infiltration.

"On these histologic findings an anatomic diagnosis of squamous celled carcinoma epithelioma was made."

I informed the patient of the serious nature of her trouble, and that the only possible chance of a cure was excision. Arrangements were made for operation four days later.

Operation.—August 5 an incision was made three inches in length, the thyroid cartilage was separated from its attachments, anticipating the removal of the entire larynx. After the larynx was opened for inspection, it was found that the swelling on the right side had entirely disappeared.

Being satisfied that only the left side was involved the thyroid and part of the cricoid cartilage were removed. The wound was then packed and a tracheal tube inserted. The operation took 50 minutes. No glandular structures were found enlarged.

Course.—The patient made a speedy recovery and was walking about the hospital in three days. Owing to the separation of the thyroid attachments there was so much narrowing that it became necessary for the patient to wear the tracheal tube permanently. Four months after the operation the patient complained of difficulty in swallowing, and for two weeks this continued with more or less severity, forming

a large swelling in the neck. From the amount of involvement of this secondary invasion, I was satisfied that removal was out of the question.

Recurrence was hardly expected so soon after operation. No glands were felt nor was there any indication that the disease had gone beyond a limited area. There had been up to this time a few cases recorded of successful treatment of carcinoma by the Roentgen rays. I therefore recommend that treatment, telling her at the same time that further operation was worse than useless. She went to the Buffalo General Hospital and there received treatment every other day. After the eleventh treatment I saw her again, and the growth had entirely disappeared, the parts looking normal. She had in all 16 treatments, and now, May 1, so far as outward appearances go, is entirely well.

DISCUSSION.

DR. B. R. SHURLY, Detroit—In looking over the literature of this condition throughout the world, I find that some observers report a 1 per cent. difficulty in removing the tube. While the tube is ordinarily removed in four days, we sometimes find it necessary to retain the tubes in place as long as a year. There are two cases in the Willard Parker Hospital now wearing the tubes more than a year. The etiology must be explained largely from the standpoint of traumatism. We have through traumatic conditions, which are frequent, an ulceration in the subglottic tissue due to the pressure of the tube in that region, or an ulceration in the anterior tracheal wall in the region of the lower border of the tube, or along the epiglottis at the head of the tube. A method of extraction which I find obviates much of the difficulty is the application of astringents to the intubation tube before again introducing it into the larynx. The spasmodic condition is due to an irritation of the laryngeal nerve endings, and we have frequent intubations and extubations with consequent injury. By applying ichthyol around the tube, alum gelatin or ointment the tube may be removed with comparatively little difficulty. This opens up a wide field for the treatment of the larynx in these conditions. We can use ichthyol, alum, argyrol, nitrate of silver, protargol, or suprarenal extract. An anodyne should be administered a half hour before extubation, thus keeping the child at perfect rest, and there will be comparative ease in removing the tubes. Ordinarily tracheotomy should not be performed. As O'Dwyer stated in a paper written shortly before his death, a condition of subglottic stenosis is almost certain to occur.

DR. D. A. KUYK, Richmond—I wish to report a case that shows how possible it is to make an error, especially without the desirable apparatus. I was called to see a woman who said that she had swallowed a set of artificial teeth. She had swallowed nothing for several days, was pale and nervous and had slept neither day nor night. At that time, ten years ago, we did not have the *x*-ray apparatus. I used an esophageal tube to ascertain the location of the foreign body. The esophageal bougie passed on down to the stomach without difficulty. I assured her that there was nothing in the esophagus, and that there was nothing but fear and fright. It was a case of autosuggestion about which Dr. Loeb will tell us. Afterward we found the teeth beneath the refrigerator, and in a few days the woman had entirely recovered.

DR. OTTO T. FREER, Chicago—The choice of esophagotomy for removal of the foreign body mentioned was, I think, a wise one. If a substance with sharp, jagged edges has been impacted for some time in the esophagus, extraction by the natural passages becomes hazardous, as it is impossible to tell how much damage has been done by ulceration or even by perforation of the esophageal walls by the pressure of the pointed prominences of the foreign body. Attempted removal through the mouth is apt to tear or perforate the ulcerated and softened esophageal wall with consequent peri-esophagitis, deep phlegmon of the neck, dangerous hemorrhages and mediastinitis. The patient encounters less risk in these cases from external esophagotomy, which does no violence to the esophagus and provides free drainage for peri-esophageal septic processes.

DR. GEORGE F. COTT, Buffalo, N. Y.—These stenotic conditions after diphtheria are almost always due to traumatism. There may be some exception in constitutionally weak children, when the tube presses on the muscles forming the vocal cords so much that they suffer collapse and sudden death follows, as I have seen in perhaps a half dozen cases. The percentage of stenosis is no doubt as high as Dr. Shurly mentions, but the percentage of these extreme cases is very minute. I have had a patient in whom granulation tissue formed almost throughout the trachea. A boy aged 2½ years at first had worn a tube suitable to his age, but having coughed up successive tubes, by the end of four weeks he was wearing one for a seven-year child. The trachea was then opened, and intubation practiced intermittently. The trachea was opened radically several times by Dr. Roswell Park at the General Hospital, but reproduction rapidly followed and tracheotomy had always to be resorted to. At the age of 10, seven and one-half years after the first intubation, he coughed up the tracheal tube and suffocated before aid could be rendered. These are the only really severe chronic stenoses I have met in 108 intubations.

TRIPLE MAJOR AMPUTATION WITHOUT LIGATION OF THE BLOOD VESSELS.

WILLIAM B. PATTON, M.D.
SPRINGFIELD, OHIO.

The following unusual case has proved interesting to the local profession and may therefore be of general interest:

M. B., aged 8, was run over by the steam cars, Sept. 16, 1903. He was taken to the Mitchell Thomas (City) Hospital, where Dr. F. P. Anzinger and I examined him. The right hand was crushed and the arm was hanging by the skin three inches above the wrist; the right foot was crushed to the ankle; the left foot was hanging by shreds three inches above the ankle. There was also a laceration of the scalp as well as a number of contusions on the back and thighs. There was no evidence of any considerable loss of blood and the boy suffered comparatively little from shock. Dr. Anzinger amputated the right leg while I removed the left. To secure sufficient flaps it was necessary to reamputate each limb far enough above the point of the injury so that the vessels could not have escaped being cut. After completing the flaps, we each proceeded to look for the blood vessels. The larger vessels not being in evidence the tourniquets were slowly removed, but there was no hemorrhage. After searching for some time for the vessels we covered the stumps and proceeded with the arm. Here we found and ligated two small superficial spurters, but neither the radial nor ulnar arteries were found. We completed the dressing of the arm, suturing the flaps and again examined the legs, but found neither hemorrhage nor signs of pulsating vessels. We packed the stumps without suturing the flaps and put the patient in bed. Forty hours later we removed the dressings and found no more oozing than is usually found in such cases, if as much. We sutured the flaps on the legs at this time. There has never been a sign of hemorrhage. All the flaps became infected, but have healed nicely by granulation. Two large abscesses formed on the patient's back and one on his thigh at sites of contusion. Barring these complications, he has made an uninterrupted recovery and is now sitting up in a wheel chair apparently in good health.

New Instruments.

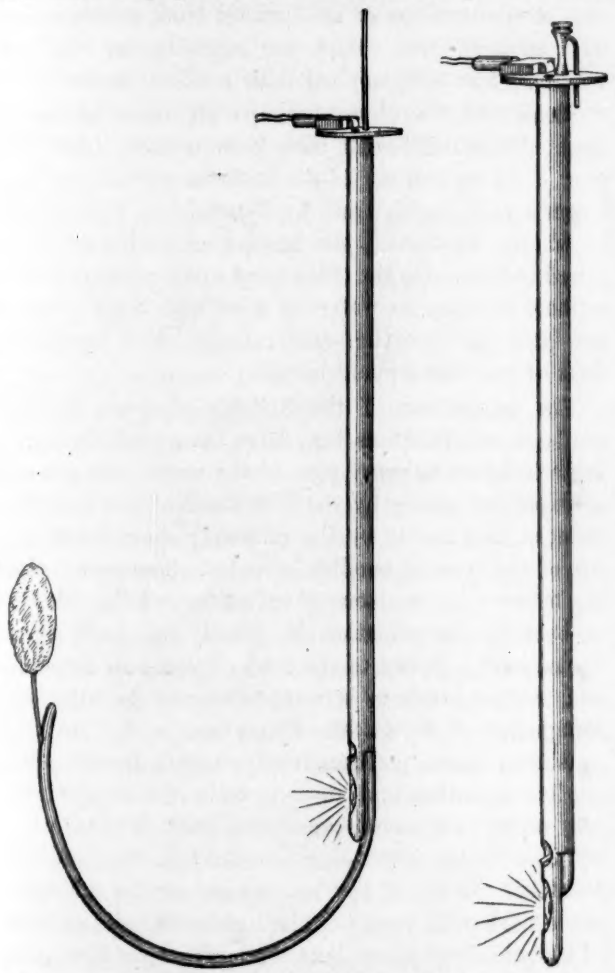
A COMBINED GASTROSCOPE AND GYROMELE FOR DIAGNOSTIC AND THERAPEUTIC PURPOSES.

FENTON B. TURCK, M.D.
CHICAGO.

Gastroscopy is used to determine the condition of the mucous membrane of the stomach by inspection. For this purpose a stiff tube is used with an electric light at the end and a reflector to carry the image to the eye through a system of lenses within the tube.

The method of such examination demands the use of a long, straight, rigid tube reaching far into the stomach. The possibility of introducing a long, stiff, straight instrument has been shown to be possible in the exhibitions made by sword swallowers. Leube[1] recommended a stiff sound introduced into the stomach to be palpated through the abdominal wall for the purpose of determining dilatation of the stomach. When it was found practical to introduce a stiff, straight instrument into the stomach the idea of inspection of the gastric cavity through a hollow, straight tube naturally presented itself.

Mikulicz[2] was the first to illuminate the stomach and make the mucosa visible by the use of the gastroscope. Mikulicz[3] showed that it was practical and useful in the diagnosis of ulcer and carcinoma of the stomach. Owing to the technical difficulties, the high price of the instrument and the great discomfort to the patients, Mikulicz's instrument has not been much employed. With more familiarity with intra-



gastric work inspection of the interior of the stomach is more easily accomplished. Thus Rosenheim[4] asserted that in 80 per cent. of the cases it was possible to introduce the gastroscope and inspect the stomach without great difficulty. Kuttner made some modifications in an instrument which was presented before the British Medical Association, Edinburgh, 1898, by Professor Ewald. Careful inspection of this instrument at that time by the writer convinced him that the large round caliber (1.5 cm.—9/16 inch or more), which was necessary under such construction, added much to the difficulty of using this class of apparatus, which at best is an inconvenient method and not devoid of danger.

When we remember that a sword swallower may repeatedly swallow a sword without apparent difficulty and rarely with any harm there must be some reason other than familiarity with the procedure. Patients become inured to the passage of intragastric instruments depending on the shape and size of the caliber. The shape of the esophagus is flattened anterioposteriorly to that a flat, sword-shaped instrument, even though rigid, can be readily introduced into the stomach. There is in a flat instrument less pressure exerted on the cricoid cartilage, the laryngeal nerves are not so much excited, and less tension is produced.

The instrument which I have devised is composed simply of a flattened double tube 65 cm. in length. The optical tube is slightly larger in caliber than the other, or carrying tube, being 5 mm. in diameter. The two tubes side by side form a width of 14 mm. Beyond the tip of the optical tube is inserted the electric lamp which requires no cooling apparatus. Above this a prism and reflector is adjusted at an angle. The outer, or ocular, end is provided with the usual prism set before the objective. The other tube is to carry the gyromele cable, which can be used to sound the pylorus or duodenum by inspection instead of by palpation as I first recommended[5] in 1894. The gyromele cable may be curved by a simple mechanical contrivance previously recommended[6] in any direction desired. Thus the pylorus may be explored by the very soft flexible cable covered at the end with wool tampon encased by a soft rubber finger cot. As will be seen in the illustration the flexible curve, the soft rubber tube carrying the flexible cable, acts as a protection to the stomach during any sudden contraction of the abdominal walls, preventing the gastric wall from being suddenly thrown against the end of the upper and rigid portion of the gastroscope. It will be seen briefly this apparatus is a combination of the principle of my double stomach tube and the gyromele with the addition of an improved gastroscope.

I have been able with this instrument to inspect the pylorus, and under the direction of the eye watch the gyromele cable pass through the pyloric orifice into the duodenum. Withdrawing it back and forth one can readily watch the distance it passes into the intestines. The measurement can be made by small nodes on the cable set 10 cm. apart. I hope in a later communication to present the practical use of this instrument not only as a diagnostic aid but also in making application to specific points on the gastric mucosa.

1. Deutsch. Arch. f. klin. Med., vol. xl.
2. Ueber Gastroskopie und Oesophagoskopie, Wiener Medizinische Presse, 1881, No. 43.
3. Wien. Med. Wochenschr., 1883, Nos. 23 and 24.
4. Gastroskopie Berliner klin. Wochenschr., 1896, No. 13.
5. Proc. Intl. Med. Congress, Rome, 1894.
6. "The Gyromele," THE JOURNAL A. M. A., May 4, 1900.

A MODIFICATION OF THE EYE OF THE NEEDLE.

JAMES P. MARSH, M.D.
TROY, N. Y.

During the process of suturing I have been frequently very much annoyed by the needle unthreading. To obviate this difficulty I have had needles made with eyes differently formed from the ordinary, the object of this modification being to so join the suture material into the narrow part of the eye that

A, Ordinary eye; B, modified eye, enlarged 2½ times.

it will not become unthreaded by reason of any ordinary traction and at the same time to so leave it that it can be readily loosened at the end of the suturing for the purposes of tying. The drawing presented will best show the modification made. It is possible that the same means has been previously resorted to, but not to my knowledge.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

103 DEARBORN AVENUE . . . . CHICAGO, ILL.

Cable Address . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

SATURDAY, DECEMBER 5, 1903.

THE DETECTION OF TYPHOID BACILLI IN WATER.

Although the evidence that connects sewage-polluted water supplies with outbreaks of typhoid fever is entirely convincing both in character and mass, there have been relatively few instances in which bacteriologists have succeeded in isolating the specific typhoid bacillus from suspicious waters. In view of the insufficiency of the data relied on for identification, most of the early statements concerning the finding of the typhoid organism must be regarded as of exceedingly doubtful value. The criteria on which up to a very few years ago such identification was based could by no means be accepted by bacteriologists at the present time. Especial uncertainty again has been recently introduced into the subject by the discovery of the group of dysentery and "pseudo-dysentery" bacilli, of *B. fecalis alcaligenes* and of a host of related organisms.

A survey of the literature shows that there are very few reported cases of the detection of typhoid bacilli in water which conform to present-day requirements. Lösener,[1] working in the Hygienic Institute at Berlin, isolated from the laboratory water supply an organism that agreed culturally with the typhoid bacillus in all respects, and that also responded favorably to Pfeiffer's immunity test. Remlinger and Schneider[2] found in various natural waters organisms that possessed the biologic qualities of the typhoid bacillus, and that agglutinated with typhoid serum and also conformed to Pfeiffer's immunity test. Some conservatism is shown, however, in accepting the work of these latter authors at its face value, both because of their rather sweeping statements with regard to "the ubiquity of the typhoid bacillus" and because of certain other internal evidence in the paper referred to. Hankin,[3] working in India, found typhoid-like bacilli in samples of water derived from various sources, and substantiated his cultural examination with the observation that agglutination occurred with a 1-600 dilution of anti-typhoid serum. Kübler and Neufeld[4] relate a particularly interesting case of the finding of typhoid bacilli in the water of a shallow well to which infection had been traced. In the course of the investigation it was noticed that no colon bacilli were present in the water, a fact that in the opinion of the authors points to infection with typhoid urine rather than with fecal discharges, and that explains the relative ease with which the typhoid bacillus was isolated, as well as the unusually long persistence of the organism in the water. Both the agglutination test and Pfeiffer's test were employed to establish identification. Genersich[5] isolated eleven cultures of typhoid-like bacilli from the water of incriminated cisterns. These organisms agglutinated in a dilution of 1-50 with typhoid serum obtained from a human patient, but the serum of animals inoculated with the water cultures failed to agglutinate a control typhoid culture except in a single instance. Fischer and Flatau[6] have reported an apparently unimpeachable case of the isolation of the bacillus from the water of a well at Rellingen. Both the agglutination test and Pfeiffer's test were applied with positive results.

There are, therefore, perhaps six cases where undoubted typhoid bacilli have been isolated from ordinary drinking water. If the evidence adduced by Remlinger and Schneider and by Genersich is not regarded as wholly convincing, the number of such cases is reduced to four. On the other hand, the finding of a paratyphoid bacillus in water by Sion and Negel[7] may be put practically in the same category with the discoveries of genuine typhoid bacilli.

The meagerness of the findings, despite the thousands of examinations that have been made by skilled bacteriologists in every part of the world, can probably be explained partly by the difficulties of the technic of isolation and partly by the relatively short duration of life of the typhoid bacillus in water. The period elapsing between the moment of infection and the initiation of bacterial investigation is usually at least several weeks, owing chiefly to the time occupied in incubation and in the insidious development and perhaps tardy recognition of the disease. Some time is also ordinarily consumed by the preliminaries necessary for the setting on foot of competent investigation. It is apparently only under exceptional conditions, such, for instance, as obtained in the instance reported by Kübler and Neufeld, that the life of the bacillus can extend throughout any considerable period. The history of most outbreaks of typhoid fever shows that the bacilli have disappeared from the water by the time the search is inaugurated, and it is for this reason that a negative finding is the usual result of bacterial examination.

Considerable interest attaches to the possibility of a diminution in the virulence of the bacillus through a sojourn in water. The scanty evidence that exists on this head indicates that some decline in virulence probably occurs. Hankin mentions that on a number of occasions he has found typhoid bacilli in waters at a time when these waters were being used for drinking, and that in several instances no cases of fever developed among the users of such water. Indeed, he specifically

1. Arbeiten a. d. kais. Gesundheits., 1895, 11, p. 207.
2. Annales de l'Inst. Pasteur, 1897, 11, p. 55.
3. Centralbl. f. Bakt., 1899, 26, p. 554.
4. Zeitschr. f. Hyg., 1899, 31, p. 133.
5. Centralbl. f. Bakt., 1900, 27, p. 241.
6. Ibid., 1901, 29, p. 329.
7. Ibid., Orig., 1902, 32, p. 480.

takes the ground that "my finding typhoid microbes in a water supply gives no proof that the microbes were there present in a condition in which they could produce infection." Remlinger and Schneider also encountered typhoid bacilli in waters that were not giving rise to the fever and that were designated by them as being chemically "very pure." Kübler and Neufeld state that the typhoid bacillus that was first isolated by them from well water would kill a guinea-pig in a dose of one-fifth of a loop, whereas a culture isolated from the water of the same well four weeks later did not prove fatal to a guinea-pig in a dose five times as great. There thus seems to be some reason for believing that by prolonged aquatic life typhoid bacilli may be rendered innocuous or at least less virulent, even where they are enabled to survive at all. The likelihood of attenuation appears to have been singularly neglected on the experimental side and is deserving of further investigation.

PROPHYLACTIC DISINFECTANT INHALATIONS IN MEASLES AND SCARLET FEVER.

At present the chief measure for the prevention of the spread of the acute eruptive diseases is the isolation of the patient. This form of prophylaxis is based on rather rude empirical ideas. Nevertheless, this is undoubtedly a most excellent method, provided the patient can be isolated from the beginning of the disease; but this is often difficult, if not impossible. This delay leads to infection of the surroundings, and thus the value of a later isolation is materially reduced. Then, again, the prolonged isolation at present in vogue, especially in the case of scarlet fever, is, to say the least, irksome and at times seriously taxes the capacity of the hospital to care for the acute cases that stand in greater need of the advantages of hospital treatment. There is consequently great need for an efficient prophylaxis based on more rational principles than the purely empirical now in vogue. But we can not look with much hope for a rational prophylaxis so long as we are ignorant of the etiology of these diseases, and of the point or points of entrance into and departure from the body of the infecting agents as well as of the places in the infected body in which the virus accumulates and probably multiplies.

Egart,[1] in discussing this question, is inclined to assume that in measles and scarlet fever the earliest local symptoms indicate the point of localization of the specific virus, that is, at the upper end of the respiratory tract. If this be the case it should be possible by means of suitable anti-infectious agents to prevent generalization of the virus and thus lighten the attack. Furthermore, it should also be possible by such measures to prevent the development of diseases in exposed persons. On account of the lack of facilities for proper isolation, outbreaks of measles and scarlet fever were frequent in the hospital under Egart's care at Brünner. He therefore set about to introduce a method of prophylactic disinfection of the respiratory tract by means of sprays and inhalations, most of the patients being children. Non-toxic and non-irritating substances, such as limewater mixed with equal parts of water, boric acid solution of 3 per cent., trichlorid of iron solution, .05 per cent., and sodium chlorid solution, 3 per cent., were used. He used all these four solutions alternately for five minutes, twice daily. His comparative statistics appear to show that by these methods measles and scarlet fever are held in check much better than before the effort of disinfection of the respiratory tract. He believes that he is justified in ascribing to disinfecting inhalations distinct value in lessening the severity of the attack in the individual patient and in preventing attacks in exposed persons,

The method introduced by Egart is surely worthy of the consideration of physicians. It should be given further trial in hospitals for eruptive diseases so that it may be possible to form a more definite opinion as to its real value than is justifiable from the experience of a single observer. The methods advocated are certainly simple and harmless.

1. Zeitschr. f. Hyg. u. Infektionskrankh., 1903, xliv, 196-217.

LATENT SYPHILIS.

There are often expressions of surprise on the part of general practitioners when the neurologists insist on the possibility of syphilis running its course in absolute latency, and without giving any manifestations by which an ordinarily careless patient would be bound to recognize it. The general rule in the development of the disease is that patients are so anxious as to the possibility of its occurrence that they actually anticipate symptoms, and some of them at least become confident that they have the disease when it does not exist. There are too many cases on record now, however, of undoubted tertiary lesions of syphilis without any history of previous stages of the disease to leave any room for doubt that the disease may, exceptionally at least, run its earlier course without attracting the patient's attention. This is all the more important, since many of the supposed nervous sequelæ of the disease are known to develop with more frequency in patients that have been insufficiently treated or that have been negligent of treatment from the beginning.

In two lectures recently delivered in London,[1] Jonathan Hutchinson, whose experience in syphilis amply justifies the acceptance of his opinion as of great value, dwells with considerable insistence on the teaching that the two earlier stages of syphilis may run a practically latent course. He emphasizes the fact that the primary sore of syphilis is not necessarily indurated in all cases, and that those who judge of it entirely by this characteristic may be deceived. As a matter of fact, the primary syphilitic lesion may be so small, so little complicated by inflammatory reaction in the surrounding tis-

1. The Clinical Journal, Aug. 5, 1903.

sues, so painless and indolent in its course as not to attract any unusual attention, especially if it should occur in the neighborhood of the nails where slight sores that run a slow course are not unusual.

Dr. Hutchinson even claims that the infection of syphilis may enter in certain cases without any breach of the cutaneous surface, and certainly without any obvious chancrous induration. He refers to instances of surgeons who have acquired the disease from a slight needle prick in operating on syphilitic patients, or in midwifery practice, without the occurrence of any local sore sufficient to arouse suspicion of its nature. As a chancre will disappear spontaneously, as a rule, in a little over four weeks, it is perfectly possible that this stage of the disease should be entirely missed. Anyone familiar with the treatment of syphilitics knows that at times the secondary symptoms are so slight and so few that they may well escape ordinary observation. It is not an unusual thing for a patient to assert positively that he has no cutaneous eruption, when the removal of his clothing discloses a blooming macular syphilid.

It is evident, then, that the possibility of latent syphilis will have to be accepted, and that certain of the nervous and other lesions which are usually connected with this disease, but which occur not infrequently in persons with regard to whom no history of syphilitic infection can be obtained, may yet be considered to be of syphilitic origin, or at least to have developed on a syphilitic basis. Visceral lesions of suspicious character occurring in individuals without a syphilitic history, must on this principle be treated first by antisyphilitic remedies, since, after all, the therapeutic test is the best possible diagnostic sign, and the therapeutics of syphilis is so hopeful as compared with any other pathologic condition as to make the trial justifiable.

ANTITYPHOID SERUM.

It is comparatively easy to immunize laboratory animals against a virulent typhoid bacillus by injecting them intraperitoneally or subcutaneously with gradually increasing doses of young, living cultures. These animals soon become resistant toward many times the minimum fatal dose of the organism, and their sera acquire high agglutinative and bacteriolytic properties. Small doses of serum of the immunized animals protect other animals against several times the minimum fatal dose of typhoid cultures, even if the serum is injected several hours after the inoculation.

Although the laboratory experiments are very encouraging, it has been found that the clinical results from these antityphoid sera are practically nil. Stokes and Fulton, for instance, immunized a hog and got very good results in laboratory animals with this serum. Half a cubic centimeter protected a guinea-pig against seven times the minimum lethal dose of a virulent culture. They treated five typhoid fever patients with this serum and noticed no special results in two. In the other three it is supposed that the serum treatment shortened the disease somewhat. Chantemesse immunized a horse with the filtered cultures and claims to have obtained slight clinical results with this serum. The unsatisfactory clinical results may be due to several causes: (1) The antisera thus far prepared may not be strong enough; (2) it is said that highly immune sera contain little or no complement, and as the human complement often disappears in the course of the disease,[1] the injection of immune bodies alone can be of no value; (3) it is also possible that the human complement does not fit into the immune bodies that have been injected.

Recently Macfadyen and Rowland[2] have obtained very encouraging results from laboratory experiments. They prepared a powerful extract of typhoid bacilli by grinding up a large quantity of organisms at a very low temperature (obtained with the aid of liquid air), and exhausting the mass thus obtained with physiologic salt solution. This extract is highly toxic for guinea-pigs, proving fatal in doses of .003 to .05 c.c. of a 10 per cent. extract. It is also toxic for monkeys. The experimenters successfully immunized a rabbit and a monkey against this extract and got agglutination of the living cultures with the serum after one injection. The animals soon tolerated larger doses, and their sera protected other animals against several times the fatal dose of the extract and of the living typhoid cultures. These sera also possess curative properties, as is shown by the fact that an animal can be saved when the serum treatment is instituted eight hours after the inoculation with living cultures.

Horses are now being immunized with this toxin, and it remains to be seen what will be the clinical results with serum thus prepared. The most interesting feature of this work is that an attempt is here made to produce an antiserum which shall be at one and the same time antitoxic and bactericidal.

THE FINANCIAL WANING OF DOWIEISM.

Dowieism has reached a crisis that may be fatal. As a religion, like its congeneric delusion, Eddyism, it has depended altogether too much on filthy lucre, and the methods of the "profit" have apparently failed to meet the requirements of honorable business. Dowie's luxurious tendencies and the late fiasco of his New York crusade have, it seems, overtaxed the resources of his credulous followers, of whom he takes such shrewd advantage. He has been the defendant in a number of suits for debt, and now a receiver has been appointed by the U. S. courts. He may weather the storm, but the probabilities are that we have seen the end of Dowie as a financier, and the end of him as a prophet is a necessary consequence. What will become of his dupes is not a pleasant thing to contemplate. Many of them, we understand, have been exhausted of all their means through his demands, and their faith will almost certainly receive a rude shock, which is likely to be more or less serious in its effects on their moral and mental future.

1. Richardson: Jour. of Med. Research, vi, No. 1.
2. Centralbl. f. Bakt., 1903, xxxiv, 765.

THE ABUSE OF HELPLESS CHILDREN IN OHIO.

A society for the prevention of cruelty to children is much needed in Ohio. In that state, human sacrifices in the name of religion are apparently authorized by law. A man allowed his 8-year-old daughter, who had been badly burned, to die without medical treatment, save that administered by Eddyites, and we know what that means. The grand jury naturally indicted the parents for manslaughter. In the trial the judge charged the jury to bring in a verdict of acquittal on the ground that no law existed in Ohio under which the parents could be prosecuted. The jury did so and the Supreme Court, to which the case was carried, ruled that the charge and the verdict were without error. It would seem that the State of Ohio is in bad shape as regards its laws protecting infant life; legislation in this regard is one of the present needs of that community.

LEGISLATION ON SANATORIUMS—PRO AND CON.

Considerable comment has been caused by the passage of an act[1] by the last New York legislature making it essential that before any hospital, camp or other establishment for the treatment of patients with pulmonary tuberculosis be established, the county board of supervisors and the town board shall both authorize such establishment and describe the limits or locality in which it may be established. This practically means a prohibition of the establishment of sanatoriums over a large section of the state, and restricts to a considerable extent the benevolent intentions of various individuals. The peculiar regulations adopted by the town of Liberty in regard to the Loomis Sanatorium are well known. All these are evidences of the irrational fears that have been excited by statements as regards the contagiousness of consumption and the dangers to the well from association with those affected by it. It is very unfortunate that the medical profession as a whole has not given out a judicial opinion on this subject or perhaps rather that so many members of it are constantly giving out injudicious statements. The public is easily misled and it takes some time for it to get its right mind in regard to questions that excite public apprehension and terror. As a contrast to this state of affairs in New York, we may notice the action of the late New Mexico legislature which offers a premium in an exemption from all taxes for sanatoriums for consumptives that may be established within a certain period and with the expenditure of a certain amount of money.[1] This, of course, is a business proposition, but it shows that the panicky fears as regards the communicability of tuberculosis have not seriously affected the legislators of New Mexico. They are willing to have consumptives come among them, and for the good of the state will take whatever risks there may be. The basis for the liberal action of the New Mexicans is not pure philanthropy, probably, but in so far as it is an index of enlightenment the "wild and woolly West" is ahead.

GERMANY'S IGNORANCE OF AMERICAN WORK.

We have on more than one occasion called attention to the persistency with which foreign investigators and writers ignore American work. The Germans have been and are, we think, the greatest offenders in this respect, and some of the most decided protests against such omissions have been made by the German-American physicians in this country. American work has been rediscovered repeatedly by Germans, and with the common reverence for the "made-in-Germany" mark, the credit has been attributed to Germans by the mass of the medical profession of the world, sometimes even after a thorough exposure of the real facts. It is a little refreshing, therefore, to read a foreign showing up of this same German ignorance of American literature. Such a satisfaction can be derived from the recent leading article in the *Semaine Medicale* (November 11), which points out that the spondylitis typhosa of Quincke, which is accepted by the Germans as a clinical discovery due to German research, was well described in all respects by an American years before Quincke's publications. Cheinisse, the author of the article, makes this very clear, and proves that Gibney pointed out the same facts and gave a correct interpretation of them ten years before Quincke's publication. Although Osler disagreed as to the spondylitic nature of the lesions which Gibney, Lovett, Withington, Cutler, Ely and others in the United States pointed out, yet the disorder is one that clearly belongs to the same category as the so-called discovery of Quincke. Cheinisse further shows that Germans also ignore the Swiss authors and refers to the work of Pallard on the same subject as evidence. Apparently, there is not a point made by Quincke and his German followers in regard to this disease that has not been previously made by American authors. Whether the Germans will at once accept this correction or not perhaps makes little difference. In the long run they will have to admit the facts. In the meantime, however, a certain amount of credit is wrongly attributed, and it is well to call attention to this state of affairs. As Cheinisse says, the saying of Solomon is still true: "There is nothing new under the sun." This especially applies to several German medical discoveries of recent years.

CIRCULATION IN THE NERVOUS SYSTEM.

At the October meeting of the New York Society for Experimental Biology and Medicine, Dr. S. J. Meltzer, the president, demonstrated some interesting specimens which seem to throw a new light on the circulation in the peripheral nervous system. His paper was on the effect of ligation on the vital staining of nerves. He demonstrated a series of pieces of dried sciatic nerves of rabbits which had received during life intravenous infusions of methylene blue. As is well known, this substance is carried all over the system by the circulation and stains all tissues, even the most delicate parts of the nerve centers, with a distinct blue tinge. By this means the course of the circulation in the nervous system and even certain peculiarities of the anatomic finer structure have been demonstrated. Dr Meltzer found that when single ligatures are applied to the trunks of sciatic nerves in animals intravenously injected with methylene blue, they are without any influence on the color of the nerve that develops after the use of methylene blue on both sides of the ligature.

1. See page 1432 of this issue.

When the sciatic nerves are ligated at two places, however, the section lying between the two ligatures remains free of color, though the central and peripheral ends of the nerves turn blue in the usual manner. This effect is produced, no matter how far apart the ligatures are applied. It is clear, then, that during life the nerve receives its circulation only from its central and peripheral ends. This seems to demonstrate how important is the influence of the circulation on the outside of the body as regards the blood supply of the nervous system. When the peripheral circulation is weak or seriously disturbed for any reason, the nerves must fail to get their due proportion of nutritious material and must serve rather to exhaust the central nervous system by draining away some of the nutritious material intended for it. This set of experiments is also wonderfully suggestive as regards the relationship of the skin and nervous systems to one another. Probably nothing that has been discovered in recent years illustrates better their interdependence.

Medical News.

CALIFORNIA.

Personal.—Dr. George S. Harkness, Stockton, whose appendix was removed November 9, is making a good recovery.——Dr. F. Henry Ottmer has succeeded Dr. O. W. Sinclair as physician-in-charge at Murray's Hospital, Eureka.

Spitting Ordinance.—The Oakland City Council has passed an ordinance prohibiting spitting on the floor or steps of any public car or conveyance, or on the floor or steps of any public building, or on any sidewalk or crosswalk, under penalty of a fine not to exceed six dollars.

Late, Yet Timely.—At a session of the California Northern District Medical Society recently held at Sacramento, where there has been a mild epidemic of smallpox, a lay journal solemnly announces the physicians "decided that the Manila itch, Cuban scratch and prairie dig, which has been afflicting the country for two or three years, and is still with us, resembles smallpox so exactly as to be smallpox, and nothing else."

More Plague.—The secretary of the State Board of Health reports a death from plague, November 6. The patient was a Chinaman, and died on the river steamer *J. D. Peters* between Bouldin Island and San Francisco.——Two deaths among Chinese women in San Francisco were reported during November. The last case was No. 109, and was reported to the San Francisco Health Office November 13. The patient died the next day.

DISTRICT OF COLUMBIA.

Personal.—Dr. William Richardson of the resident staff of St. Elizabeth's Hospital, Washington, has been appointed to a similar position at the Columbus (Ohio) State Hospital for Insane.

Kappa Psi Fraternity.—The annual convention of this society was held in Washington under the auspices of Zeta Chapter, medical department of Georgetown University, November 26 and 27. The meeting was successful, and the reports from the various chapters showed increased interest in medical fraternalism. The visiting delegates were entertained at a theater party and a banquet, which was presided over by Dr. F. H. McKeon as toastmaster. Philadelphia was chosen as the next place for meeting.

Report of Health Officer.—The report of the health officer for the week ended November 14 shows the total number of deaths to have been 121, of which number 74 were white and 47 colored. There were reported 24 new cases of typhoid fever, 10 of diphtheria, and 5 of scarlet fever. The health officer calls attention to the fact that there were reported 75 white births and 74 white deaths, 34 colored births and 47 colored deaths. There are 1,257 registered physicians in practice in the District of Columbia, while only 84 births were reported by physicians. There are 136 midwives registered and during the week only 23 reported births.

GEORGIA.

Hospital Loss Adjusted.—The loss in the recent fire at Grady Hospital, Atlanta, has been adjusted at $6,200.

Johnson Monument Unveiled.—The shaft erected in Oakland cemetery in memory of the late Dr. Walter K. Johnson, Atlanta, was unveiled November 15.

Personal.—Dr. Obadiah C. Gibson, for many years city physician of Macon, has been appointed by the State Board of Health to manage all epidemics in Bibb County.

Smallpox.—The disease is causing such alarm around Albany that the municipality has instituted compulsory vaccination. More than 200 cases exist, mostly among negroes.——Several cases are reported in Collins, Tattnall County.

ILLINOIS.

Smallpox Increases.—Smallpox has been reported in twenty counties and thirty localities. About 300 cases are said to exist at present.

Membranous Croup is Diphtheria.—In the future all cases of membranous croup in Rockford must be reported to the health officer and treated as a form of diphtheria, according to a ruling of the city health department.

Fire at Insane Hospital.—A live wire set fire to a college at the Illinois Hospital for the Incurable Insane, Bartonville, November 27. Until all danger was past Dr. George A. Zeller, the superintendent, took the 60 occupants of the cottage to the library.

Typhoid at Canton.—Canton has nearly 100 cases of typhoid fever and 5 deaths have occurred. The majority of cases are among the employes of the Parlin and Orendorff plow factory. The State Board of Health has been requested to send an official to investigate the sanitary conditions at the factory.

St. Mary's Hospital Staff.—The newly-appointed medical staff of St. Mary's Hospital, Quincy, is made up as follows: Drs. Joseph Robbins, Robert J. Christie, Sarah Vasen, John H. Rice, Henry Hatch, E. B. Montgomery, Ernest Zimmerman, William S. Knapheide, Robert J. Christie, Jr., L. H. A. Nickerson, William W. Williams, Charles E. Center and H. L. O. Whipple.

Chicago.

Bequest.—The endowment fund of St. Luke's Hospital is given $3,000 by the will of Mrs. Annie J. Tree.

More Money for Hospital.—The net proceeds of the fifth benefit concert for the Presbyterian Hospital were $8,083.

Personal.—Dr. Joseph E. Raycroft has been appointed director of the physical culture exhibit at the Louisiana Purchase Exposition.——Dr. John C. Outhet has sailed for the Orient.

City Bacteriologists' Examination.—Nine candidates for the position of superintendent of the city laboratory, vacated by the resignation of Dr. William K. Jaques, took the civil service examination November 17.

Dr. Senn's Illness.—Dr. Nicholas Senn, who was reported as seriously ill with septicemia from an infected operation wound of the right hand, has returned to Chicago and is reported much improved and progressing rapidly toward recovery.

Herzog to Manila.—Dr. Maximilian Herzog, for more than seven years professor of pathology and bacteriology in the Chicago Policlinic, has been appointed pathologist in the Bureau of the Government Laboratory, Manila, and will sail from San Francisco about December 30.

Addition to St. Luke's Hospital.—A plot of ground 40 by 161 feet, adjoining St. Luke's Hospital, has been purchased for $28,000 and will be used as a site for an addition, to cost about $300,000. It will consist of rooms and suites to be occupied by patients and possibly by their relatives, thus combining the idea of a hospital and a hotel.

Deaths of the Week.—Barely half a dozen diseases together with suicide and violence contribute 309 out of the total 512 deaths reported last week, while the same causes contributed 215 out of the total 467 reported the week before. Deaths from nervous diseases increased from 19 to 32; pneumonia from 70 to 94; and violence, including suicide, from 29 to 50. The mortality was at the annual rate of 14.15 per 1,000.

INDIANA.

Nearly Seven Thousand.—The report of the State Board of Registration will be issued in a few days. It will contain the names of nearly 7,000 physicians, 600 of whom are registered in Marion County.

Hospital **Dedicated.**—The Flower Mission Hospital for Incurables, Indianapolis, was formally dedicated, November 25. Morris Ross made the presentation address, and the mayor accepted the hospital on behalf of the city.

Gifts to **Richmond Hospital.**—William B. Leeds has given $10,000 toward the new public hospital at Richmond and Daniel G. Reid has given $50,000. The building will probably be known as the Reid Memorial Hospital. The Morrison bequest of $10,000 was turned over to the hospital trustees, November 18.

Health Officers' School.—The legislature of 1903 authorized the State Board of Health to require a certain sanitary training of health officers and also authorized the holding of a school for health officers. The health officers of the state number 516, and two schools are held annually to accommodate this number. The first school was held in June, and to it were summoned all county and city health officers. The second school, which is exclusively for town health officers, will be held December 16 and 17 at Indianapolis. Among the teachers for this school are ex-Surgeon-General George M. Sternberg, U. S. Army; Surgeon-General Walter Wyman, U. S. P. H. and M.-H. Service; Dr. Frank G. Novy, University of Michigan; Dr. Charles O. Probst, secretary American Public Health Association and secretary Ohio State Board of Health; Dr. Frank Allport, Chicago; Prof. David Dennis of Earlham College and Prof. Coulter and Prof. Burrage of Purdue University. The lectures will all relate to subjects pertaining to the practical application of disease-prevention measures. The Hon. William L. Taylor, ex-attorney-general, who has written and revised the health and medical laws of the state, will expound the state and national laws relating to public health and quarantine.

Sickness and Death in October.—The health in October, 1903, was not as good as in the same month last year. It was better, however, as compared with September. Typhoid fever is reported as being the most prevalent disease, 78 counties reporting the disease present, deaths being reported from 64 counties. It was also the most prevalent malady last month. Rheumatism was reported as second in area of prevalence, while diarrhea occupied this position last month, but it has fallen this month to seventh place. The order of prevalence was: Typhoid fever, rheumatism, intermittent fever, bronchitis, tonsillitis, scarlet fever, diarrhea, diphtheria, pneumonia, influenza, pleuritis, erysipelas, measles, dysentery, cholera morbus, inflammation of bowels, whooping cough, cholera infantum and cerebrospinal meningitis. During the month 324 cases and 1 death from smallpox in 38 counties were reported. This is a decided increase in the number of cases and area as compared with the preceding month, but a decrease as far as deaths are concerned. In the corresponding month last year 298 cases were reported, with 19 deaths in 35 counties. We have, therefore, to record an increase so far as cases and area covered is concerned, but a decided decrease in deaths. The total number of deaths from all causes reported was 2,572, a rate of 12 per 1,000 per annum. The city death rate was 15.4 and the country death rate was 10.3. Tuberculosis claimed 256 victims; 160 typhoid deaths were reported; diphtheria caused 63 deaths; pneumonia deaths numbered 132; influenza, 8; cerebrospinal meningitis, 25; puerperal septicemia, 10; cancer, 105, and violence, 146.

IOWA.

Smallpox at Corning.—It is reported that there are twenty cases of smallpox at Corning and that schools and churches are to be closed.

Acquitted.—Dr. B. A. Wilder, Sibley, charged with having caused the death of Anna Gedneka by a criminal operation, was found not guilty November 9.

New College Building Dedicated.—The new medical college building of Drake University, Des Moines, was formally dedicated December 3. The building has been completed and in use by the students for some time.

License Revoked.—The State Board of Medical Examiners, on November 14, considered the case of Dr. R. A. Snook of Sandyville, Warren County, who plead guilty of immorality. He promised not to offend in future, but the board decided not to accept his offer of reformation and his license was revoked.

MAINE.

Bangor **Personal.**—Dr. Galen M. Woodcock has resigned as member of the board of health.——Dr. George L. Hilton has been elected city physician, vice Dr. Edson E. Goodrich.

Smallpox.—Keeneville has been found to be the center of a fresh outbreak. Cases were discovered in Skowhegan and traced to Keeneville, where several families were found to be infected.——Fifty cases of a mild type are reported in Bangor. General vaccination has been ordered, but neither schools nor public places have been ordered closed.

"Holy Ghosters" Quarantined.—The State Board of Health has put the Bible School of the Holy Ghost and Us Society under strict quarantine. So many cases of smallpox have developed there that it has been made the pesthouse for the surrounding country. These "Sanfordites" protest against any medicinal aid, and through their belief that the Lord will heal, have been the means of disseminating the disease widely in that region.

MARYLAND.

Baltimore Personal.—Dr. N. G. Keirle, Jr., left London last week for Paris to study at the Pasteur Institute. On his return he will be assistant of the Pasteur department at the City Hospital, which is under the charge of his father.

Deaths in Baltimore.—For the week ended November 28, 177 deaths and 79 births were reported. The annual death rate was 16.50 per 1,000. Among the causes of death were consumption, 23; Bright's disease, 21; pneumonia, 14; cancer, 6, and typhoid fever, 5.

Section Officers Elected.—At the inaugural meeting of the section on ophthalmology, otology and laryngology of the Medical and Chirurgical Faculty of Maryland for 1903-4, held November 27, at Baltimore, Dr. Harry Friedenwald was elected chairman, and Dr. James J. Carroll, secretary-treasurer.

House Staff Appointed.—The following have been appointed house staff of the Frederick County Emergency Hospital recently established at Frederick by the county medical society: Drs. Franklin B. Smith, William C. Johnson, Henry P. Fahrney, Ira J. McCurdy, Samuel T. Haffner, Wilson A. Long and Harvey Getzendanner.

Charges Dismissed.—The county commissioners of Baltimore county dismissed the charges against Dr. John C. Schofield, health officer of the Twelfth District, preferred against him by Dr. John S. Fulton, secretary of the State Board of Health. It was alleged that Dr. Schofield neglected his duty in allowing suspects to escape from the camp of detention at Hombergville during the late smallpox epidemic, and had not reported deaths at Bayview Asylum in the proper form to the health office in Baltimore.

NEW YORK.

Diphtheria in Auburn Abating.—The epidemic of diphtheria in the western portion of Auburn is abating, and schools were reopened this week.

Convicted of Attempted Abortion.—Dr. Henry C. Chapin, Findley Lake, was convicted, November 22, of attempted abortion. This is a compromise verdict, as he was charged with manslaughter in the first degree.

Smallpox at Corinth.—Dr. Frederick C. Curtis, Albany, medical officer of the State Department of Health, reports that he found several mild cases of smallpox at Corinth, Saratoga County, and that all are properly quarantined.

New York City.

Nurses of St. Luke's Hospital.—The Alumnæ Association of this hospital has realized about $4,000 from a fair to endow a room for the use of the nurses when sick.

Fewer Deaths from Tuberculosis.—According to a circular just issued by the health department the death rate from pulmonary tuberculosis in New York City has fallen from 4.2 per 1,000 in 1881 to 2.29, or a reduction of more than 40 per cent.

Personal.—Dr. John W. S. Gouley is giving a course of lectures on Wednesday evenings at Bellevue Hospital on "The Principles of Conduct Adapted to Medical Students and Physicians."——Dr. and Mrs. William T. Bull have sailed for Europe.

Family Exterminated by Pneumonia.—It is reported that a whole family has been wiped out by the ravages of pneumonia. The disease first attacked a young girl, who died in St. Peter's Hospital. Her father, mother, sister and uncle called at the hospital to see her, and all of them, as well as a brother, died of the same disease within a few days.

Abortionist Arrested.—Through the combined efforts of the New York County Medical Society, the health commissioner and the Society for the Prevention of Cruelty to Children, Dr. Francis Gray Blinn was arrested in his own sanitarium, charged

with attempting to perform an illegal operation. A medical student named Edwin Watkins, impersonating "Dr. J. Sterling Loomis" of Bayonne, took a prominent part in the procedures leading to this arrest. Dr. Blinn agreed to pay "Dr. Loomis" a commission of $100, the fee asked for the operation being $500. Dr. Blinn was arrested in January, 1893, and in March, 1902, on similar charges, but was discharged for lack of evidence. He has now fled from the city, forfeiting his bail of $1,000.

OHIO.

Sisters' Hospital Soon to Open.—The building at Clifton which the Sisters of Charity have remodeled and equipped as a hospital, is now almost ready to receive patients.

Medical Libraries Consolidated.—The books formerly in the medical department of the Cincinnati Public Library have been removed to the City Hospital, and, with the library already accumulated there, will make a large and useful library.

Personal.—Dr. Charles H. Willgohs, Akron, celebrated his centenary on November 20.——Dr. Dudley P. Allen, Cleveland, gave a dinner, November 21, in honor of Dr. William Mayo, Rochester, Minn.——Dr. Adam H. McCullough has been inducted into the office of health officer of Mansfield, vice Dr. J. Harvey Craig.——Dr. Walter W. Brand was re-elected health officer of Toledo, November 24.

Epidemics.—MEASLES at Columbus Barracks, 22 cases; SCARLET FEVER at the Institution for the Blind, Columbus, 25 or more cases; at Bowling Green and at McArthur the public schools have been closed; SMALLPOX, 13 cases at Steubenville, 40 cases at Cambridge, 3 cases at Washingtonville, schools and churches closed; Marysville has quarantined against Union County and has prohibited public gatherings; Youngstown has 21 cases.

PENNSYLVANIA.

Trained Nurse Convicted.—Daisy Goeing, a trained nurse, was recently sentenced to five years' imprisonment on pleas of guilty to robbing the safe of the West Philadelphia Hospital for Women, and obtaining goods by false pretenses.

The Typhoid Situation at Butler.—On November 28 the State Board of Health held an adjourned session in Butler, Pa., to investigate the cause of an epidemic of typhoid fever at that place, which has affected more than 1,200 people. The cause is charged to polluted water furnished by the Butler Water Company. It is claimed that because of the loss of a dam the company for a time pumped water directly from a creek when there were many typhoid cases on the tributaries of the stream. Because of the epidemic many families are in destitute circumstances, and a public meeting has been held to raise a fund to support emergency hospitals and to aid other relief work. Later information has been received to the effect that diphtheria has made its appearance among the fever-stricken children in St. Paul's Orphan Home. A physician and four nurses have been detailed for the institution and strict quarantine has been established. So far 3 cases have been discovered. Six physicians and more than 50 nurses have come to Butler to aid in care of the sick. Twenty-five new cases of typhoid fever were reported December 1, with 4 deaths.

State Board Meets.—The State Board of Health met in Pittsburg, November 27. Dr. Benjamin Lee, secretary, in his annual report gave particular attention to the status of smallpox in Pennsylvania. During the year ending November 1 there were 6,504 cases of smallpox and 503 deaths from the disease. The largest number occurred in Pittsburg, where there were 1,234 cases and 238 deaths. In Philadelphia, up to October 1, there have been 948 cases and 138 deaths. A careful calculation leads to the conclusion that outside of the large cities about 1,500,000 school-days were lost because of the disease, while the inclusion of the large cities would swell the figures enormously. In Philadelphia, for example, seven elementary schools, with an enrollment of more than 5,000 pupils, were closed in a single day. The report deals also with measures taken to prevent the pollution of streams, tuberculosis, tetanus and proposed legislation to stop the sale of toy pistols and dangerous explosives. Chairmen of the standing committees are as follows: Charles H. Harvey, Philadelphia, executive; Benjamin Lee, Philadelphia, registration and vital statistics; George G. Graff, Bucknell College, preventable diseases; A. M. Embrick, Boiling Springs, adulteration, etc.; John Fulton, Johnstown, water supply and sanitation; Samuel T. Davis, Lancaster, public institutions and school hygiene; H. J. McClelland, Pittsburg, sanitary legislation.

Philadelphia.

The Muetter lecture on surgical pathology, College of Physicians for 1903, was delivered in the lecture hall of the college, December 1, by Dr. Charles N. B. Camac of Cornell University, New York City, the subject being "Some Observations on Aneurism and Arteriosclerosis."

Smallpox and Deaths.—For the week ended November 28, new smallpox cases were reported from 26 of the 42 wards of the city. There was a total of 70 new cases with 11 deaths. Deaths from all causes numbered 495, compared with 409 the week before and 454 for the corresponding period of last year.

Dispensary Burns.—On the evening of November 29 a building used by the Children's Homeopathic Hospital for dispensary purposes and for sleeping apartments for servants was destroyed by fire, involving a loss of some $4,000. A threatened panic of the inmates was prevented by the prompt and cool action of the nurses.

City Not Responsible.—A man recently brought suit against the city to recover damages because of the illness of members of his family asserting that they had contracted typhoid fever as a result of foul gases arising from garbage. Attempt was made to hold the city responsible for the deposit of this noxious matter. The plaintiff lost the suit, the defense producing expert testimony to prove that typhoid germs can not be introduced into the system by breathing impure air.

RHODE ISLAND.

Typhoid at Brown.—Brown University, Providence, is having a small epidemic of typhoid fever. Nine cases have so far developed, but the source of infection has not been discovered.

Personal.—Dr. Craig Cameron, Olneyville, was seriously burned about the face by carbolic acid.——Dr. Lucius F. C. Garvin, Lonsdale, has been re-elected governor of the state by 5,000 plurality.

Verdict Against Physician.—A Providence jury has given a verdict for $2,375 against Dr. J. Leroy Fisher of that city in favor of a boy whom he treated for a fracture of the leg, which the complainant claimed was not properly treated, as ulceration and shortening followed.

Vanderbilt Donation to Hospital.—Mrs. Cornelius Vanderbilt, Sr., has transferred to the trustees of the Newport Hospital the memorial edifice to her husband which she has erected and equipped on the grounds of the institution, at a cost of $250,000. It is to be known as the Cornelius Vanderbilt Pavilion.

TEXAS.

Quarantine Raised.—The quarantine maintained by Denison and McKinney against Sherman, on account of smallpox in the latter city, has been raised on the advice of the state health officer.

Increases Scope and Stock.—Dallas Medical College has filed an amendment to its charter, adding to its purpose clause the right to maintain a medical dispensary, and also increasing its capital stock from $3,000 to $6,000.

State Health Officer Supreme.—The attorney general has rendered an opinion that all county and city quarantine authorities are subordinate to the state health officer and that health certificates issued by him must be respected by local authorities.

Laredo Fever-free.—Laredo has had no case of yellow fever since November 25, and should this favorable condition continue, the health authorities will soon give the city a clean bill of health and raise the quarantine. The total cases have numbered 1,022, with 99 deaths, a mortality of 9.7 per cent.

To Decrease Degeneracy.—Dr. Marvin L. Graves, San Antonio, superintendent of the Southwestern Insane Asylum, in his annual report says there are 3,200 insane persons in asylums and 2,000 at large in Texas. He believes the time is near when some humane means, surgical or otherwise, will be demanded to prevent the continuation of a race of degenerates and dependents.

FOREIGN.

Santiago, Chili, Sewer System.—The government of Chili has provided for the appropriation of $5,000,000 to establish a drainage and sewage system in the city of Santiago.

Sleeping Sickness at Paris.—The three negroes from the Congo exhibited at the Paris Académie de Médecine, as mentioned on page 1335, are attracting much interest. They spend most of their time in bed, but do not suffer at all, and are confident that they will soon be cured. Each has a remarkable appetite and digestion is good. The Association des Dames Françaises has placed its small hospital at the service of the Institute of Colonial Medicine, and the negroes are cheerful in their new surroundings.

Italian Regulations for Notification of Disease.—The Italian government has recently ordered that when the authorities are notified in regard to the presence of a case of contagious disease in a house the notice must state whether the patient is attending school and mention the school and also whether there are other school children in the family or house or persons employed in a school. The local authorities will then notify the principal of the school mentioned so that he will debar persons from the infected home in case they come to school. Another regulation is to the effect that children with chronic affections such as trachoma, impetigo, tinea and tuberculous affections of the skin or bones, may attend school, but must sit apart from the other children, without any possible contact between them and their mates. Children with suppurating tuberculous lesions of the skin, bones or glands, are also allowed to attend school if their lesions are kept covered and if they are seated at isolated desks.

Marmorek's Antituberculosis Serum.—Dr. Marmorek has long been connected with the Pasteur Institute at Paris as chief of the chemical laboratory. During the past year he has been experimenting with an antituberculosis serum whose effects on lower animals have been so good that he is encouraged to propose it for the treatment of humans. The other scientists connected with the institute refused to sanction its publication at this early date and wished to wait for further experience. Marmorek has consequently withdrawn from the Pasteur Institute, and read a communication before the Académie de Médecine, November 17, describing his technic and results to date. The *Bulletin* for that meeting has not yet been received. His communication had been announced for November 10, but Roux of the Pasteur Institute secured its withdrawal. On deliberation, however, the Académie gave audience to Marmorek at the following meeting. Roux stated that the results of control tests at the Pasteur Institute were entirely opposite to those which Marmorek asserts to have obtained. A cable dispatch from Paris in the daily press December 2, announces that Prof. G. Dieulafoy reported to the Académie that he had tested the Marmorek serum on seven patients, Marmorek operating. Instead of becoming better, he says, they became worse and five died. Le Dentu made a similar report.

Tuberculosis Conference at Berlin.—The physicians in charge of the tuberculosis sanatoriums in Germany meet annually at Berlin to discuss matters connected with their specialty. This year all medical men officially engaged in the campaign against tuberculosis were invited to the meeting, which was, therefore, an exceptionally interesting one. B. Fraenkel, in his opening address, considered it necessary to defend the sanatoriums against certain aspersions. He stated that the influence of climate is not important as more than 30 per cent. of the patients treated in sanatoriums at the ordinary altitude have had their working capacity restored for more than four years. He referred to immunization against tuberculosis as a dream for the future without practical value for the present, and offering no prospects as yet of rendering the sanatoriums superfluous. Their value as a means of educating the people in the prophylaxis of tuberculosis can not be overestimated. Treatment with tuberculin was discussed at great length, the general opinion seeming to be growing more and more favorable to it, especially for tuberculosis in children. Sanatorium treatment for tuberculous children was qualified as indispensable and blessed in its results. Children need especial care when they are leaving school to enter apprenticeships, also during convalescence from infectious diseases. Heubner made an impassioned appeal for more convalescent homes and sanatoriums for children, and it was decided after long discussion that the expense of such institutions ought to be borne by the community or group of communities. Brandenburg already has organized an association for the purpose. Germany also has one or two sanatoriums for tuberculous children, recently opened, and the gain in weight of all the children has been remarkable. One of the sickness insurance societies has opened a home at Berlin for incurable consumptives, with accommodations for 20. It is designed for those whose home environment favors contagion of others. The inmates are allowed to see their friends every day at certain hours, and are given leave of absence for half a day twice a week. Only 8 of the 35 taken in have died; 2 others have left to resume work.

LONDON LETTER.

The Etiology of Sleeping Sickness.

We have recently referred to the "progress report" of the commission appointed by the Royal Society to investigate sleeping sickness (THE JOURNAL, October 10, p. 918). Their provisional conclusion—that sleeping sickness is caused by the entrance into the blood and thence into the cerebrospinal fluid of a species of trypanosoma which is transmitted from the sick to the healthy by a species of tsetse fly—is now fully borne out by the complete report and constitutes a discovery which ranks with those of the mosquito origin of malaria and yellow fever. Some conception of the ravages wrought by this disease among the native population in Uganda may be formed from the condition of the Buvuma Island, where a population of 22,000 has been reduced to 8,000 since the outbreak of the disease, while the province of Busoga has been almost depopulated in the southern parts. Colonel Bruce was dispatched by the government to superintend a further investigation into this disease, on which some work had already been done by the previous commission sent out by the Royal Society. He was accompanied by Dr. Nabarro as bacteriologist, and while in Uganda was joined by Captain Grieg, I. M. S., who had been sent out by the Indian Government to study the disease. Colonel Bruce and his party reached Entebbe on March 16, and found that Dr. Castellani, a member of the previous commission who had remained at work on the investigation, had observed in 5 cases of sleeping sickness trypanosomes in the cerebrospinal fluid, and in one case in the blood. At that time Dr. Castellani did not consider that this parasite had any causal relationship to the disease. As soon as it was reported to Colonel Bruce, whose investigations into the tsetse fly disease in South Africa are well known, the whole party, with the assistance of Dr. Moffat, the principal medical officer, and his assistant medical officer, addressed themselves with ardor to this line of investigation with the result that by the first week in April, out of 34 cases of sickness examined, 70 per cent. were found to have this parasite in the cerebrospinal fluid, whereas control cases of patients under treatment for other diseases in the native hospital, when examined in the same way, showed no trypanosomes in their cerebrospinal fluid. The further progress of the investigation increased this proportion to 100 per cent. of cases examined, in all of which the parasite was found not only in the cerebrospinal fluid, but also in the circulating blood. A series of experiments was carried out in which it was discovered that monkeys inoculated with cerebrospinal fluid from sleeping sickness patients, or with blood from natives not as yet showing symptoms of sleeping sickness, but containing a similar parasite, sickened and died, with all the symptoms of sleeping sickness. From the analogy of the closely related disease in cattle, the nagana or tsetse fly disease of South Africa, it was suspected that in sleeping sickness a like method of infection took place. Along the lake shore numbers of tsetse fly (*Glossina palpalis*) were found, and it was demonstrated by experiment that not only were these flies, fed on sleeping sickness cases, capable of conveying the disease to healthy monkeys, but that the freshly-caught flies from an infected area, without any artificial feeding, were also capable of conveying the disease. It was further discovered that this fly, like its congener the tsetse fly of South Africa, is confined to well-defined areas, which correspond absolutely with the distribution of sleeping sickness, whereas, in regions where no *Glossina palpalis* is found, although other biting flies abound, there is no sleeping sickness. Moreover, a large percentage of the inhabitants of the sleeping sickness areas have in their blood the trypanosoma, but in not a single case taken from inhabitants of non-sleeping sickness areas was this parasite found.

Correspondence.

American and International Congresses on Tuberculosis and Tuberculosis Exhibits for the Years 1904 and 1905.

NEW YORK, Nov. 27, 1903.

To the Editor:—During the past few months I have received many inquiries concerning the various tuberculosis congresses (American and international) which have been projected for the years 1904-5. The multiplicity of these various congresses and the similarity of their names lead naturally to great confusion.

It is announced that a congress on tuberculosis is to be held in St. Louis in October, 1904, under the name of "International Congress on Tuberculosis." On careful inquiry I learned the following facts about this congress: Mr. Francis, the president of the St. Louis Exhibition, has been approached by the officers of the "American Congress on Tuberculosis,"

which was founded some years ago by Clark Bell, a lawyer of the city of New York, to sanction the holding of an international congress on tuberculosis in connection with the Louisiana Purchase Exposition. From a letter received from Dr. E. J. Barrick of Toronto, Canada, the president of this congress, I learn that Mr. Francis has appointed the above-mentioned Mr. Clark Bell chairman of the committee on organization. Mr. Clark Bell is also the treasurer and chairman of the executive committee of the "American Congress on Tuberculosis," season 1903-1904; a Mr. Samuel Bell Thomas of 290 Broadway, New York, is the secretary of the latter. The officers of the international congress are not yet elected. I was desirous to learn the names of other medical men interested in this congress, and Dr. Barrick very kindly wrote me November 16, that he had asked Mr. Bell to furnish me the desired additional information, but nothing has thus far been received.

The other international tuberculosis congress announced is the one to meet in Washington, D. C., April, 1905. It is to be held under the auspices of "The American Congress on Tuberculosis for the Prevention of Consumption," of which Dr. Daniel Lewis, New York, is president, and Dr. George Brown, Atlanta, Ga., is secretary.

I want to call attention to the difference in name of the two American congresses, one is "American Congress on Tuberculosis," the other "The American Congress on Tuberculosis for the Prevention of Consumption."

The congress which was to meet under the name of "Congrès International de la Tuberculose" at Paris from Sept. 26 to Oct. 1, 1904, has been recently postponed to the year 1905. The president of this congress is Professor Brouardel, honorary dean of the Faculty of Medicine of Paris. The general secretary is Dr. M. Letulle, professor agrégé of the Faculty of Medicine, residing at 7 rue Magdebourg, Paris.

There will be held during the coming year independently of the above-mentioned congresses two tuberculosis exhibitions, one in Baltimore, and the other in St. Louis. The Baltimore Tuberculosis Exhibition will be held in January, 1904, under the combined auspices of the tuberculosis commission, the Maryland Board of Health, and the Maryland Public Health Association.

The other tuberculosis exhibition will be held in St. Louis, in connection with the Exhibition of Social Economy and under the subsection of hygiene, of which Dr. J. N. Hurty of Indianapolis is superintendent.

All indications point toward success of both exhibits, and it is to be hoped that they will fulfill their high purpose and at the same time be a credit to American physicians and hygienists.

Considering the various congresses I do not hesitate to express a feeling of deep anxiety. The first one mentioned, which for reason of brevity I will call "The Bell Congress," because it owes its inception to Mr. Clark Bell, has, to my knowledge, not the support of our best men. The second congress in point of time, which again, for the sake of brevity and clearness, I may call "The Lewis-Brown Congress" (names of the president and secretary), while it has many distinguished men of various state and provincial boards of health among the members, has, like the Bell congress, thus far not among them the men we are wont to look up to as leaders in movements of this kind.

What are our confrères across the water to think if they hear of two American congresses on tuberculosis and each having an international one under its auspices? The European authorities found it best, instead of having a triennial congress, to have one more year to intervene. This will make the congress in Washington and the one in Paris convene in the same year (1905).

If President Francis of the St. Louis Exposition desires that a tuberculosis congress shall be held in St. Louis, let him call to his aid some of the men who are recognized as leaders in our profession. They will counsel with him on the advisability of such a congress, and if it is decided that one should be held, Mr. Francis can be assured that the best element of Europe and America will come to St. Louis to contribute to its success.

The officers and members of the Lewis-Brown congress must realize that they can not expect to have their international meeting in Washington to be successful, when, six months later, there will be an international congress in Paris. I hope that there will be enough patriotism and national pride for all interested to realize that two American congresses on tuberculosis is an anomaly, and that, if the St. Louis congress is to be a success, it must be in the hands of medical men well and favorably known in this country and abroad.

As a solution of the problem I beg leave to suggest the following: During the Tuberculosis Exposition in Baltimore next January all interested should meet on a certain date on this neutral ground for the purpose of coming to an agreement about a single representative national or international tuberculosis congress to be held in America. There, too, should be formed a national committee on tuberculosis which is to be in touch with the international tuberculosis congress which will convene in Paris in 1905.

S. A. KNOPF, M.D.

16 West Ninety-fifth Street.

Mercuric Cataphoresis.

PHILADELPHIA, Nov. 25, 1903.

To the Editor:—I wish to correct a mistake which I allowed to remain when correcting the report of my remarks on the papers of Drs. Dunning and Bovée. This discussion appeared in THE JOURNAL, November 14, page 1194. I was reported as speaking of a method of diffusion of mercury through the "abdominal wall" for chronic inflammation of the uterine appendages. It should have been "vaginal wall." The method referred to is described in a paper in THE JOURNAL, Aug. 30, 1902, and I will be glad to send reprints to those who wish them.

G. BETTON MASSEY.

Marriages.

EMMETT M. HARRISON, M.D., to Miss Salome Bradley, both of Knoxville, Tenn., September 7.

ARTHUR GILBERT BARRETT, M.D., to Miss Alice Hollander, both of Baltimore, November 18.

OMAR H. REES, M.D., Ogden, Ill., to Miss Lydia Matilda Georg of Indianapolis, November 11.

FRANK H. THOMAS, M.D., Valdosta, Ga., to Miss Ann E. McKay of Riverton, Va., November 18.

SAMUEL H. NEAL, M.D., Elkhorn, W. Va., to Miss Bertha M. Jones of Philadelphia, November 18.

JAMES MORRISON BODINE, M.D., to Mrs. Laura M. Williams, both of Louisville, Ky., November 25.

JULIA SEATON KAPP, M.D., Denver, Colo., to Frank W. Sears of Lynn, Mass., at Boston, November 15.

FRANK CLINE FERGUSON, M.D., Spartansburg, S. C., to Miss Edith Seward, at Baltimore, November 18.

EDWIN ELLIOTT ARMSTRONG, M.D., Sylvania, Ohio, to Miss Myrtle Demuth of Toledo, Ohio, October 21.

JAMES R. RICHARDS, M.D., Thermopolis, Wyo., to Miss Edith M. Blatchford of Terry, S. D., November 14.

ROBERT A. MARTIN, M.D., Pell City, Ala., to Miss Mary Lee Campbell of Birmingham, Ala., November 18.

GEORGE C. MOREY, M.D., Remsen, N. Y., to Miss Edna Richards of Steuben, N. Y., at Remsen, November 10.

GEORGE LAWRENCE STEVENSON, M.D., Sacramento, Cal., to Miss Frances Burt of San Francisco, November 14.

JESSE NEWMAN REEVE, M.D., Washington, D. C., to Miss Ashley Macon Miller of Richmond, Va., November 17.

THEOPHILUS LACY MASTIN, M.D., Huntsville, Ala., to Miss Mary Cyrene Burch, at her home near Versailles, Ky., November 17.

Deaths.

Horace C. White, M.D. Medical School of Maine at Bowdoin College, Brunswick, 1859, one of the most prominent physicians of Somerville, Mass.; assistant surgeon of the Eighth Maine Volunteer Infantry during the Civil War; a member of the American Medical Association, Massachusetts Medical Society,

Maine Medical Association, ninth International Medical Congress, and sometime president of the Boston Gynecological Society, and the Somerville Medical Society, for two terms a member of the state legislature and a trustee of the Somerville Hospital since its organization, died at his home, November 26, after a long illness, from heart disease, aged 67.

Henry **Eugene Winslow, M.D.** College of Physicians and Surgeons, New York, 1894, surgeon U. S. Constabulary in the Philippine Islands, formerly of West Oakland, Cal., at one time medical inspector of the Manila Board of Health, and a medical officer of great promise, died from amebic dysentery in the Civil Hospital, Manila, October 8. The council of the Manila Medical Society, at a meeting held October 10, adopted resolutions eulogistic of the ability, modesty and simplicity of the deceased officer and deploring his untimely death.

Hawkins Brown, M.D. University of Louisville, 1854, a venerable and honored practitioner of Kentucky; once president of the Kentucky State Medical Society; a member of the American Medical Association, died at his home in Hustonville, December 1, aged 73. He was surgeon of the First Kentucky Cavalry, and served on General Stoneman's staff during the Civil War.

Charles Schaeffer, M.D. University of Pennsylvania, Philadelphia, 1859, the well-known scientist, and member of many learned societies, who devoted himself especially to botany, died at his home in Philadelphia, November 23, from heart disease, aged 65. He was in active practice until 1898.

Frank L. Swallow, M.D. University of Pennsylvania, Philadelphia, 1900, of Pittsburg, Pa., died suddenly, November 17, at Manor, Pa., whence he was to be taken to the West Penn Hospital to be treated for neurasthenia, aged 27.

Allen Hazen, M.D. College of Physicians and Surgeons, New York, 1895, of New York City, a member of the Society of Alumni of the City Hospital, died at Jericho Center, Vt., November 17, after an operation for appendicitis.

John W. Van Osdol, M.D. Miami Medical College, Cincinnati, 1879, of Dillsborough, Ind., died at the home of his son in Rushville, Ind., November 2, from paralysis, after an illness of 11 days, aged 58.

Charles A. H. De Szigethy, M.D. University of Giessen, Germany, 1867, a member of the American Medical Association, died at his home in Brooklyn, November 17, from heart disease, aged 65.

Theodore A. Trulson, M.D. College of Physicians and Surgeons of Chicago, 1885, died from paralysis of the heart following diphtheria, November 18, after an illness of thirteen days, aged 42.

Carrie L. Heald, M.D. Northwestern University Woman's Medical School, Chicago, 1897, died at her home in Osceola, Neb., November 18, from typhoid fever, after an illness of four weeks.

William Hutton, M.D. University of Michigan, Ann Arbor, 1874, was drowned November 22, by breaking through the ice while crossing Apple River at his home in Elizabeth, Ill., aged 58.

Louis H. Dravo, M.D. Jefferson Medical College, Philadelphia, 1881, who had suffered from asthma for several years, was found dead at his home in Pittsburg, November 18, aged 50.

Samuel Talmage, M.D. New York University, 1870, a member of the Kings County (N. Y.) Medical Society, died at his home in Brooklyn, November 20, from paralysis, aged 72.

Thomas A. Barr, M.D. Eclectic Medical Institute, Cincinnati, 1864, died at his home in Lebanon, Mo., November 15, after a lingering illness, from Bright's disease, aged 62.

Alphonse J. Mervy, M.D. Cooper Medical College, San Francisco, 1876, of San Francisco, died at San Diego, Cal., November 17, after an illness of three months, aged 56.

Benjamin F. Sippy, M.D. St. Louis College of Physicians and Surgeons, 1884, died at his home in Belle Plaine, Kan., November 19, from cancer of the stomach, aged 55.

John Tascher, M.D. Eclectic Medical Institute, Cincinnati, 1878, formerly of Chicago, died at Albuquerque, N. M., November 16, from nephritis, after a long illness.

Henry **T. Templeton, M.D.** Medical College of Georgia, Augusta, 1867, died suddenly at his home in Laurens, S. C., November 10, from heart disease, aged 62.

Raymond **P. Eddy, M.D.** Eclectic Medical Institute, Cincinnati, 1860, died at his home in Providence, R. I., November 11, after an illness of about one year, aged 80.

Douglas W. Tice, M.D. St. Louis Medical College, 1860, a practitioner in Troy, Mo., for more than 40 years, died at his home in St. Louis, November 11, aged 70.

B. Brown Henry, M.D. University College of Medicine, Richmond, 1900, of West Newton, Pa., was struck by a train at that place, November 17, and instantly killed.

James G. Dickson, M.D. Jefferson Medical College, Philadelphia, 1851, died suddenly from heart disease at his home in Canonsburg, Pa. November 14, aged 78.

Jefferson K. Heltman, M.D. Medical College of Indiana, Indianapolis, 1875, died suddenly from heart disease, November 8, at his home in Oaklandon, Ohio.

Herbert A. Starkey, M.D. Medico-Chirurgical College of Philadelphia, 1889, died suddenly at his home in Kingston, N. Y., November 21, aged 35.

Willard L. Collins, M.D. Western Pennsylvania Medical College, Pittsburg, 1892, died suddenly at his home in Girardville, Pa., November 2, aged 38.

T. Clayton Williams, M.D. University of Maryland, Baltimore, 1868, died at Winchester, Va., October 29, from acute Bright's disease, aged 59.

John L. Watkins, M.D., assistant surgeon in the Confederate Army during the Civil War, died at his home in Milton, N. C., October 24.

Matthew A. Schweeters, M.D. Western Reserve University, Cleveland, 1890, died suddenly from heart diseases at his home in Leesville, Ohio.

John A. Hickman, M.D., surgeon in the Confederate service, died at his home in Cynthiana, Ky., November 18, after a short illness, aged 76.

Daniel J. Turner, M.D. University of Maryland, Baltimore, 1894, died at his home in Front Royal, Va., November 10, aged 38.

Thomas J. West, M.D. Charity Hospital Medical College, Cleveland, 1868, died at his home in Tiffin, Ohio, November 18, aged 68.

Zera W. Monroe, M.D. Rush Medical College, Chicago, 1890, died at his home in Monroe, Wis., November 20, from tuberculosis.

Edward E. Smart, M.D. Tulane University, New Orleans, 1856, died recently at his home in Leesville, La.

William Joseph von Mitden Einerhand, M.D., died November 10 at his home in Newport, Ky., aged 81.

Orion M. Cox, M.D., died from pneumonia at his home in Cox's Creek, Ky., November 21, aged 74.

L. F. Watson, M.D., died at an advanced age at his home in Springfield, Mo., November 18.

Book Notices.

PRACTICAL GYNECOLOGY. A Comprehensive Text-Book for Students and Physicians. By E. E. Montgomery, M.D., LL.D., Professor of Gynecology, Jefferson Medical College. Second Revised Edition. With 539 Illustrations, the Greater Number of Which Have Been Drawn and Engraved Especially for This Work, for the Most Part from Original Sources. Cloth. Pp. 900. Price, $5.00 net. Philadelphia: P. Blakiston's Son & Co. 1903.

While it is only three years since the first edition of this book was issued the author has found it necessary to revise many parts so as to bring it well up to date, and to include all the later important operative procedures. Several changes have been made in the arrangement. In our review of the book on its first appearance we criticised the classifying of the various lacerations of the pelvic floor, vaginal fistula, etc., under malformations; in this edition these and similar conditions are grouped under a new general division of traumatisms. Other minor changes are also to be observed, all bettering the book. Many new illustrations have been added, and not a few of the old ones have been redrawn. The book is unusually well gotten up and the binding has been especially improved. As we said in noticing the work on its first appearance, the author is neither too radical nor too conservative in the consideration of the conditions that may need radical operations. In the introduction he tells us that the true gynecologist must be "so conservative that he will sacrifice no organ whose physiologic integrity is capable of being restored; so bold and courageous that his patient shall not forfeit her opportunity for life or restored health through his failure to assume the

responsibility of any operative procedure necessary to secure the object." This is the basal idea that permeates the book; the ultraradical operator will find no endorsement, and the "tinkering" gynecologist—he who treats all diseases of women by means of a pledget of cotton and a speculum—no encouragement in its pages. The book is one that we can recommend to the student, to the general practitioner—who must sometimes be a gynecologist to a certain extent whether he will or not—and to the specialist, as an ideal and in every way complete work—a practical work for practical workers.

A DICTIONARY OF MEDICAL SCIENCE. Containing a Full Explanation of the Various Subjects and Terms of Anatomy, Physiology, Medical Chemistry, Pharmacy, Pharmacology, Therapeutics, Medicine, Hygiene, Dietetics, Pathology, Bacteriology, Surgery, Ophthalmology, Otology, Laryngology, Dermatology, Gynecology, Obstetrics, Pediatrics, Medical Jurisprudence, Dentistry, Veterinary Science, etc. By Robley Dunglison, M.D., L.L.D., Late Professor of Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College of Philadelphia. Twenty-third Edition, Thoroughly Revised, with the Pronunciation, Accentuation and Derivation of the Terms. By Thomas L. Stedman, A.M., M.D., Fellow of the New York Academy of Medicine. Cloth. Pp. 1212. Price, $8.00. Philadelphia and New York: Lea Brothers & Co. 1903.

For seventy years Dunglison's Dictionary, like Gray's Anatomy, has been a standard. It has held first place—and the only place for many years—as the medical dictionary of our country. Others have appeared and held high rank for awhile, and then have vanished. But Dunglison's still hung on and became an institution in medicine. And now we have the twenty-third edition "thoroughly revised," as the title-page says, which examination shows to be a fact. It is the old standby with all its old associations clinging to it, but nevertheless it is a thorough exemplar of twentieth century medicine. A critical examination for the discovery of the omission of recently created words has resulted in a failure to find the omission; the new words are there. Over 1,500 new definitions, according to the preface, have been introduced in this edition. A few of the old definitions have been rewritten in a more concise form, but most of the old ones have been left as they were originally. The illustrations are more of a feature than in previous editions. Many are in colors, and those illustrating the arteries (19) and the veins (10) are especially to be commended. Those of us who in our younger days dug out of "Dunglison" not a little of medical lore will welcome the old book made new again and will thank Stedman and Lea Brothers for making it possible still to refer with confidence and satisfaction to the friend of our youth.

PSYCHOTHERAPY in the Practice of Medicine and Surgery. By Sheldon Leavitt, M.D. Cloth. Pp. 247. Price, $2.00. Chicago: Gardner-Taylor Press. 1903.

The principles of psychic healing as laid down by Leavitt seem to be very near to the teaching of Mrs. Eddy, divested, however, of their pseudo-religious and other fraudulent accessories. He believes in subjective and objective minds; the former controlling the vital action being in itself controllable to some extent by the objective mind. In his treatise he says that "all disease has its origin in the mind, the subjective taking its cue from its environment" and that "the prevention of disease consists in keeping the subjective mind under the power of wholesome suggestion." "The cure of disease consists in the use of suggestion running counter to disease and the establishment of subconscious thoughts of health inculcated by unconscious volition." "All cures are essentially self cures." This is pretty near pure Eddyism. The author believes, nevertheless, in the use of drugs and thinks that they are practically only aids to suggestion. The book is a readable one, and has, it seems to us, some literary pretensions, but as a scientific work we would not give it a very high place.

HUNTINGTON'S ABDOMINAL ANATOMY. The Anatomy of the Human Peritoneum and Abdominal Cavity Considered from the Standpoint of Development and Comparative Anatomy. By George S. Huntington, M.D., Professor of Anatomy in the College of Physicians and Surgeons, Columbia University, New York City. Pp. 590, Including 300 Full-page Plates in Colors and Monochrome. De Luxe Edition. Price, $10.00 net. Philadelphia and New York: Lea Brothers & Co. 1903.

In this work the author says: "An attempt has been made to emphasize the value of embryology and comparative anatomy in elucidating the difficult and often complicated morphologic problems encountered in the study of human adult anatomy." The first chapter, or introduction, contains a concise statement of the main facts of vertebrate embryology in so far as they relate to the abdominal cavity and its contents. The work is then subdivided into four parts: "Anatomy of the Peritoneum and Abdominal Cavity, Comparative Anatomy of Foregut and Stomach"; "Anatomy of the Peritoneum in the Supracolic Compartment of the Abdomen"; "Large and Small Intestine, Ileocolic Junction and Cecum"; "Morphology of the Human Cecum and Vermiform Appendix." Of course, no attempt is made to cover the entire subject of comparative anatomy, but such examples are considered as may lead to a clearer and better understanding of the human adult form. The author shows not only a thorough knowledge of the entire subject from a scientific point of view, but has presented the matter in such an attractive and instructive form as to enable the surgeon and physician to make many deductions of the greatest practical value. It is seldom that one has the pleasure of reviewing a work which is so thoroughly scientific and so replete with the practical and important. It is an excellent work and can be heartily recommended.

VEASEY'S OPHTHALMOLOGY. A Manual of Diseases of the Eye. For Students and General Practitioners. By Clarence A. Veasey, A.M., M.D., Demonstrator of Ophthalmology in Jefferson Medical College, Philadelphia. 12mo. Pp. 410. With 194 Engravings and 10 Full-page Colored Plates. Cloth. Price, $2.00 net. Philadelphia and New York: Lea Brothers & Co. 1903.

Dr. Veasey has given us a most valuable text-book, which will be useful to both student and practitioner. Veasey has had a long experience as a teacher, and consequently is capable of producing, in a condensed form, an excellent volume on the subject of ophthalmology. The volume is made attractive as well as more valuable by the color plates and by the two hundred engravings which are well executed. The publishers have presented the book in an attractive form and free from typographic errors. The chapter on the affection of the ocular muscles is one of the best, clearest and most concise that has yet been written. The author has evidently made a careful study of sympathetic ophthalmitis, as he has under that head given a condensed but at the same time a careful and thorough description of this most interesting disease.

THE MEDICAL NEWS VISITING LIST FOR 1904. Weekly (Dated for 30 Patients); Monthly (Undated, for 120 Patients per Month); Perpetual (Undated, for 30 Patients Weekly per Year); 60-Patients (Undated, for 60 Patients Weekly per Year). The Weekly, Monthly and 30-Patient Perpetual Contain 32 Pages of Data and 160 Pages of Classified Blanks. The 60-Patient Perpetual Consists of 256 Pages of Blanks Alone. Bound in Flexible Leather, with Flap and Pocket, Pencil and Rubber, and Calendar for Two years. Price, $1.25. Thumb-letter Index, 25 cents Extra. Philadelphia and New York: Lea Brothers & Co. 1903.

This excellent pocket companion comes to us in practically the same form as in former years. The matter has been revised and brought thoroughly up to date. It is one of the most useful pocket visiting lists that is issued and contains important tables, poisons and antidotes, etc., in a compact form.

PHYSICIANS' POCKET ACCOUNT BOOK. By J. J. Taylor, M.D. Leather. Pp. 200. Price, $1.00. Philadelphia: Published by the Medical Council.

This is a neat, compact, easily kept account book that can be carried in the pocket without inconvenience and contains a large amount of information for the general practitioner. The form of keeping the accounts is in compliance with the legal requirements of practically all the states, making it especially valuable on this account.

SUCCESS IN DENTAL PRACTICE. A Few Suggestions Relative to the Most Approved Methods of Conducting a Practice. By C. N. Johnson, M.A., L.D.S., D.D.S., Professor of Operative Dentistry in the Chicago College of Dental Surgery. Cloth. Pp. 159. Price, $1.25. Philadelphia and London: J. B. Lippincott Co. 1903.

This little work is full of useful hints to the dental practitioner. Written by a man of years of ripe experience, it can not but be of great benefit to the dentist, especially to those about to begin practice. Every dental practitioner should have it conveniently at hand to peruse at his leisure moments.

ELECTRO-STATIC MODES OF APPLICATION, THERAPEUTICS AND THE USES OF THE ROENTGEN RAY. By William Benham Snow, M.D., Professor of Electro-Therapeutics and Radiotherapy in the New York School of Physical Therapeutics. Second Edition. Revised and Enlarged. Contains More Than 100 Illustrations. Including Ten Full-page Half-tones, Showing the Various Methods of Posturing and Treating Conditions. Cloth. Pp. 302. Price, $3.00. New York: A. L. Chatterton & Co.

This work first appeared about two years ago, and has now been corrected and brought up to date.

Miscellany.

We need to educate the medical profession at large as well as the public on the extreme value of postmortem examinations. These examinations . . . would help us at every step of our work and do more to advance our profession than any other one thing.—*Journal of the Kansas Medical Society.*

The local medical society ought to know all about the doings of its local board of health, about its community water supply, the sewerage system, the sanitation of its school houses. It ought to lend its influence toward making clean, beautiful streets, regulating various nuisances, smoke, unnecessary noises, etc. The local society ought to have something actively to say and to do about the grossly immoral advertising and the nauseating patent medicine notices that appear in the local papers.—*Iowa Medical Journal.*

A Useful Discovery.—For 40 years physicists have been seeking some substance to serve as a screen, cutting off all the light and heat-giving rays of the spectrum, while allowing the invisible ultra-violet rays to pass. Finally, Prof. R. W. Wood of the Johns Hopkins University, has discovered the long-sought substance, which bears the name of nitrosodimethyl-anilin. When combined with cobalt glass, this substance furnishes a screen which allows only ultra-violet rays to pass through. The discovery is of importance for some difficult scientific investigations.—*Carolina Med. Jour.*

Opium in Infantile Diarrhea.—Kerr, in the *Brooklyn Medical Journal*, gives these rules: Use opium "always alone, never in combination." The indications for its use are: "1. When the evacuations are large and watery. 2. When they are small and nagging. 3. When, late in the disorder, the taking of food causes an almost immediate evacuation. Its use is contraindicated in the stage of active diarrhea before the bowel has been cleared out, or where the passages are foul smelling. It should never be used in the presence of high temperature and cerebral symptoms."

Physiologic Importance of Abundant Light.—The habit of keeping the window-shades down, which is so common a practice even when there is no direct sun-glare on the window, is a direct setting at naught of physiologic principles, which teach the importance to health of both body and mind of an abundance of light. Sir James Crichton-Browne, in an address on "Light and Sanitation" delivered at the jubilee conference of the Manchester and Salford Sanitary Association, said: "I have spoken of light as purifying our atmospheric environment and as freeing us from certain superficial parasitic distempers, and I wish now to remind you that it has still more deep and intimate human relations of a sanitary nature; for light is a necessary condition of mental and bodily well-being. Its tonic psychical effects are everywhere recognized. All properly organized men and women love the light, and it is not merely to children that darkness brings with it a sense of powerlessness, danger, and alarm. Essential for all the purposes of life, for the supply of oxygen on which existence depends, light is a universal stimulus."—*N. Y. Medical Journal.*

An Aseptic Newspaper.—The Huron (S. D.) *Journal-World* and its managing editor, Mr. W. E. Holbein, deserve great credit for a clean sheet, and a refreshing freedom from offensive advertising. This paper does not carry in its columns the advertisement of a patent medicine or a medical faker. A country newspaper that has the courage to exclude such matter and the moral strength to decline a source of revenue from such advertising should receive applause, commendation and support from every right-minded physician. The people of Huron are to be congratulated on the presence of such a man as Mr. Holbein, and Mr. Holbein is to be congratulated for living in a community that will support a clean and reputable paper. The *Lancet* extends its compliments, and expresses the hope that more country papers will follow this good example. It is vain to expect that the city dailies will follow this twentieth century leader—the revenue is too great from photographically illustrated testimonials, fakers of nauseating fame, and luring advice for criminal acts. Let us look forward to the time when the people shall be educated to read the news and not to waste their gray matter on useless, nasty and body-destroying advertisements.—*Northwestern Lancet.*

No Contract Practice.—The following resolutions were adopted by the Hillsborough (Fla.) County Medical Society, at its November meeting:

WHEREAS, Some of the principal objects of our organization are to enable its members to receive just and full compensation for their services, and to maintain fair and equal ethical relations among its members, and to maintain dignified professional relations toward each other, and to promote the practice of more scientific medicine, and to protect its members from unjust discriminations in acquiring practice;

WHEREAS, There are present among us certain companies or societies conducted on the mutual benefit plan, which make and offer to make exclusive contracts with physicians and surgeons wherein the compensation for their services is less than the conventional fees for such services, and

WHEREAS, These societies have come to be recognized the world over as being demoralizing and baneful to the interests of the profession of medicine; therefore, be it

Resolved, That it is the sense of this society that entering into contracts to do medical and surgical service with any society, company, corporation or association, to the exclusion of any other physician or physicians or for compensation less than the conventional fees for such services, is undignified and unprofessional conduct and is injurious to the profession, and that the members of this society shall not enter into such contracts, *Provided*, That this resolution does not apply to United States Army surgeons, United States Marine-Hospital surgeons, United States Navy surgeons, nor to any city, county, state or national health officer nor to railroad surgeons.

Resolved, That we send a copy of these resolutions to each physician in Hillsborough County, requesting his co-operation in carrying out the same. Be it further

Resolved, That this resolution shall be and is by its adoption a part of the constitution and by-laws of this society, the same to be known as Amendment 1 of the by-laws.

Mrs. Eddy As She Really Is.

CLARENCE L. WHEATON, M.D.
DENVER.

A well-known lay journal* recently published an article under the above caption, referring to incidents in Mrs. Eddy's home life, in which appears the following:

Promptly at 2 o'clock the carriage appears every day, a handsome turnout; but unless it be for the heavy silver mountings of the harness with the small ornamental letter E here and there, there is nothing whatever about to attract special attention. It is a closed carriage and the driver himself wears no livery other than the silk hat and black coat. Her secretary always sits on the seat by the driver.

This brief description of Mrs. Eddy's livery is preceded by an account of her palatial home. Mrs. Eddy has indeed sown well the seed that could bring forth this luxurious harvest. I was not blinded, however, by the glare and glitter of it all; I thought of other things. I thought of the ignorant multitude who daily worship at the shrine of this self-appointed goddess of a new faith. I thought of the millions of homes on which the shadows nightly fall and the thousands of weeping mothers with broken hearts whose loved ones have journeyed thither "across the black interminable ocean, unfluctuating and voiceless, which perchance stretches between these earthly coasts and those invisible shores," a sacrifice on the altar of the new faith.

I could see the empty trundle-bed, which so often lulled to sweet dreams the little boy blue of that home, and I thought of the countless thousands of innocents sacrificed to this delusion of the Twentieth Century, that stalks about in the garb of a "Christian" science. I thought of the millions and millions of followers of a faith that belongs to a voiceless age; to an age of darkness, ignorance and superstition; to an age in which there shines no star, where laws were neglected, an age of injustice and agony. I thought of this faith that offers a hope to the weary invalid, a hope that must fade away as the dew on the sun-kissed petals of the meadow flower, a hope that must vanish like the Magic Lake in mirage, above the silent and lonely sand-shrouded desert.

The Hygienic Laboratory of the U. S. Public Health and Marine-Hospital Service.

In August, 1887, the Hygienic Laboratory of this service was established in New York at the Marine Hospital, Staten

* The Ladies' Home Journal, November. The standing of this magazine would lead one to expect better things of it than endorsing this idiotic travesty on religion and lending its columns to help on such money-making schemes. The article should have appeared in the advertising pages; it was accompanied by an editorial note stating that it was approved for publication by the "profitess."—ED.

Island. It was transferred to Washington, with headquarters on the upper floor of the Butler Building, on June 11, 1891. Five acres of the reservation of the Naval Museum of Hygiene were set aside for a site, and an appropriation of $35,000 was made by Congress, March 3, 1901, for a new building. This building is now completed and is being equipped. It will be occupied about Jan. 1, 1904.

The building is constructed of dark, hard-burned brick, with a basement, two stories and an attic. On the first floor are located the general office, the private offices of the director and assistant director, the zoologic laboratory, and the private office of the chief of that division. At the western end of this floor is the room devoted to photography. In this room will be placed the microphotographic apparatus, cases for the preservation of negatives and for the storage of special apparatus. This room is provided with a roll curtain, for lantern exhibitions to be given in connection with the instruction of student-officers. South of the main entrance, on this floor, is the library, which will contain shelf room for about 10,000 volumes. This room is provided with a long table in order that it may be used for board meetings.

The second floor has in the center, facing north, three rooms devoted to the private offices of the chiefs of the divisions of chemistry, pharmacology, and pathology and bacteriology, respectively. The west room is for the division of pathology and bacteriology. This room has benches so arranged that nine officers may be accommodated, each with an entire window for his own use. The small sterilizers, postmortem table, tables for the microtomes and the paraffin bath are placed in this room. By an ingenious arrangement, at each desk there is delivered a solution of trikresol, distilled water, tap water, and gas for a Bunsen burner. The east room on this floor is for the use of the divisions of chemistry and pharmacology. Benches, with necessary lockers, drawers, hoods and sinks are provided. This floor also contains the incubator and cold rooms. The incubator is maintained at a uniform temperature by means of an electric heater. The cold room is cooled by means of a special system of cold-air pipes.

In the basement are located the heating plant, necessary storage for coal and the large sterilizers. The building is provided with two elevators running from the basement to the attic.

An Act of Congress, approved July 1, 1902, provided that there should be an advisory board for the Hygienic Laboratory; this board to consist of three competent experts detailed from the Army, the Navy and the Bureau of Animal Industry, respectively, together with the director of the laboratory and five additional members on said board, to be appointed by the surgeon-general of the Public Health and Marine-Hospital Service, with the approval of the Secretary of the Treasury, who shall be skilled in laboratory work in its relation to public health. This act also provided that there shall be appointed, whenever in the opinion of the surgeon-general commissioned medical officers are not available for duty on this detail, competent persons to take charge of the divisions of chemistry, zoology and pharmacology. These chiefs of divisions shall be men skilled in their respective lines of scientific research work, especially in relation to the public health.

The results of the researches in the laboratory are published in laboratory bulletins. During the past year nine bulletins have been issued from the laboratory. Some of them, on account of their great importance from a public health standpoint, have attracted wide attention.

Plans are now under way for the production in the laboratory of a standard diphtheritic antitoxin for distribution to manufacturers, those engaged in research work, and others.

Officers of the service are detailed to the laboratory from time to time for special instruction in bacteriology and pathology. The course given is very complete, extending over a period of about twelve months. When these officers have completed the course they are competent to do independent research work.

The Act of Congress, approved July 1, 1902, entitled "An act to regulate the sale of viruses, serums, toxins, and analogous products in the District of Columbia, to regulate interstate traffic in said articles, and for other purposes," and regulations approved in accordance with said act, placed the supervision of plants manufacturing these products under the Public Health and Marine-Hospital Service. The laboratory examination of these products is conducted in the Hygienic Laboratory.

State Boards of Registration.

COMING EXAMINATIONS.

State Board of Examiners of Alabama, Montgomery, Dec. 1 to 10. Chairman, W. H. Sanders, M.D., Montgomery.

New Mexico Board of Health, Santa Fe, Dec. 7. Secretary, Dr. D. B. Black, Las Vegas.

Examining Board of Medical Society of Delaware, Dover, Dec. 8. Secretary, Dr. P. W. Tomlinson, Wilmington.

Board of the Homeopathic Medical Society of Delaware State and Peninsula, Wilmington, Dec. 8.

Ohio State Board of Medical Registration and Examination, Columbus, Dec. 8-10. Secretary, Dr. Frank Winders, Columbus.

Missouri State Board of Health, Southern Hotel, St. Louis, Dec. 14, 15 and 16. Secretary, Dr. W. F. Morrow, Kansas City.

Medical Council, Philadelphia, Dec. 15. Secretary, Dr. Isaac B. Brown, Harrisburg.

Medical Examining Board of Virginia, Lynchburg, Dec. 15-18. Secretary, Dr. R. S. Martin, Stuart.

Colorado State Board of Medical Examiners, 1723 Tremont St., Denver, Dec. 22-24. Secretary, Dr. S. D. Van Meter, Denver.

Louisiana Report.—Dr. Felix A. Larue, secretary and treasurer of the Louisiana State Board of Medical Examiners, reports the written examination held at New Orleans, Oct. 26 and 27, 1903, as follows: Number of subjects, 10; questions, 50; percentage, 75; candidates, 30; passed, 22; failed, 8. Following are the colleges of the candidates, the years of graduation and the grades attained:

PASSED.

Tulane University, (1901) 82.6,* 88.4; (1903) 84.4, 75.2, 80.8, 78.2, 79.6.		
Memphis Hospital Med. Coll., (1903) 75.8, 77.2, 75.6, 75.		
Univ. of the South, Sewanee, Tenn., (1903) 75.6;* (1899) 77.		
Baltimore Medical College	(1903)	84.2
Jefferson Medical College	(1902)	92.8
University of Tennessee	(1903)	81.2
University Medical College, Kansas City	(1903)	78.0
Louisville Medical College	(1886)	76.6*
Fort Worth University	(1903)	86.6
New Orleans University	(1903)	77.2*
Walden University	(1903)	79.6*
Illinois Medical College, Chicago	(1903)	75.2

FAILED.

Memphis Hospital Medical College, (1903) 67.4; (1896) 66.0.*		
University of Brussels (Belgium)	(1872)	58.2
University of the South (Sewanee)	(1903)	69.0
Kentucky School of Medicine	(1898)	64.2*
Vanderbilt University	(1894)	71.0
Walden University	(1903)	71.8
New Orleans University	(1902)	69.0†

* Second trial. † Third trial.

District of Columbia Report.—Dr. William C. Woodward, secretary of the Board of Medical Supervisors of the District of Columbia, reports the oral and written examination held at Washington, D. C., Oct. 9 to 14, 1903, as follows: Number of subjects, 17; questions, 80 written; percentage, 75; candidates, 28; passed, 23; failed, 5. Following are the colleges of the candidates, the years of graduation and the grades attained.

PASSED.

Bellevue Hospital Medical College	(1897)	82.62.
Chicago Homeopathic College	(1888)	75.03.
Columbian University	(1901)	86.84; (1902) 90.37, 88.93; (1903) 86.09, 86.31, 89.21, 86.18
Georgetown University	(1901)	92.00, 82.34, 82.68, 85.62, 88.81.
Howard University	(1902)	81.62; (1903) 79.21, 78.09.
Johns Hopkins Medical School	(1901)	86.62; (1902) 91.09, 84.25.
Tufts Coll. Med. School, Boston	(1897)	85.12.
University of Maryland	(1899)	88.03.
University of Pennsylvania	(1902)	77.15.

FAILED.

Cleveland Medical College	(1893)	56.50.
Coll. of Phys. and Surgs., Baltimore	(1893)	71.90.
Columbian University	(1903)	71.34.
Howard University	(1903)	72.12; (1902) 69.71.

The secretary does not send the questions asked at the examination because "the board," he says, "does not consider the publication of such questions compatible with the best interests of medical examining and licensing boards."

Illinois **October Report.**—Dr. James A. Egan, secretary of the Illinois State Board of Health, reports the written examination held at Chicago, October 21 to 23, 1903, as follows: Number of subjects examined in, 11; total questions, 110; percentage required to pass, 75; candidates examined, 49; passed, 43; failed, 6. The following were the colleges represented, with year of graduation and the grade attained:

PASSED.

Northwestern Univ., Chicago.....(1903) 86, 88, 84, 86, 86.
Rush Medical College, Chicago.....(1902) 85; (1903) 83, 85, 86, 90, 85, 84, 78, 86, 88, 86.
University of Michigan.....(1888) 75; (1898) 88.
Johns Hopkins Univ., Baltimore.....(1899) 85; (1903) 87.
Illinois Medical College, Chicago.....(1903) 86, 85, 83, 83, 82, 85.
Baltimore Medical College.....(1903) 85.
Marion-Sims-Beaumont Medical College..(1903) 77.
Barnes Medical College, St. Louis.....(1900) 76.
University of Iowa, Iowa City.....(1903) 84.
Baltimore Univ. School of Medicine.....(1903) 78, 82.
Chicago Homeo. Medical College.....(1903) 80, 81.
National Med. Univ., Chicago.....(1901) 80.
Meharry Med. Coll., Nashville.....(1903) 79.
Coll. of P. and S., Chicago.....(1903) 80; (1902) 88; (1903) 83, 88.
Denver and Gross Medical School.....(1903) 83.
Hering Medical College, Chicago.....(1903) 81.
Georgetown Uni., Washington, D. C.....(1896) 89.

FAILED.

Hahnemann Med. Coll., Chicago.....(1884) 56.
Baltimore Univ. School of Medicine.....(1898) 64.
Illinois Medical College, Chicago.....(1903) 74.
National Med. Univ., Chicago.....(1903) 71.

In addition to the above, one candidate withdrew on account of sickness and another was suspended for dishonesty in the examination.

Washington Report.—Dr. P. B. Swearingen, Tacoma, secretary, Washington State Board of Medical Examiners, reports a written examination at Spokane, July 6-7, 1903, as follows: Subjects covered, 16; questions, 139; candidates, 85; passed, 76; failed, 9. The percentage required of recent graduates was 75, of old practitioners, 70. The following is a summary by colleges:

PASSED.

Northwestern Univ., Chicago, (1893) 92 3/7; (1898) 90 3/7; (1902) 85 2/7.
Keokuk Medical College, (1901) 70 4/7.
Kansas City Medical College, (1903) 82½; (1899) 83; (1903) 77 1/21; (1900) 77.
Louisville Medical College, (1901) 78 9/14; (1890) 70 9/14.
Harvard Medical College, (1903) 81 6/7.
Boston University, (1903) 83 5/14.
Detroit Medical College, (1902) 86 13/14; (1902) 77 13/14; (1902) 83½; (1895) 78 3/14.
Ann Arbor Medical College, (1868) 73 3/7.
University of Michigan, (1886) 73 11/14.
University of Minnesota, (1892) 83½; (1903) 84 2/7; (1902) 90¼; (1902) 91 3/7; (1901) 77; (1894) 76 3/14.
University of Maryland, (1893) 85 2/7.
Medical School of Maine, (1879) 73 2/7.
Barnes Med. Coll., (1903) 81 1/84; (1897) 79 2/7.
Marion Sims Medical College, (1892) 74½.
Homeopathic Medical College, St. Louis, (1898) 78 5/14.
Missouri Medical College, (1899) 77 11/14.
St. Louis Medical College, (1873) 70 5/7.
Washington University, St. Louis, (1901) 83¼.
Bellevue Medical College, (1897) 84 1/7.
Ohio Medical College, (1901) 74 15/28.
Cleveland Medical College, (1883) 72 3/14.
Cincinnati Medical College, (1902) 75.
Eclectic Medical College, Mancelona, Mich., (?) (1879) 70 1/7.
Eclectic Medical College, Pennsylvania, (1868) 82.
University of Pennsylvania, (1895) 80 1/18; (1868) 72 1/14.
Hahnemann Medical College, Philadelphia, (1899) 93 3/14.
Cooper Medical College, (1903) 81 13/14; (1903) 87¾.
University of California, 85 3/7.
College of Physicians and Surgeons, Chicago, (1901) 85 5/7; (1903) 78 4/7; (1901) 79 1/14; (1903) 75 2/7; (1903) 91 3/14; (1896) 83 9/14; (1902) 83½.
College of Physicians and Surgeons, San Francisco, (1902) 84 3/7.
College of Physicians and Surgeons, St. Louis, (1903) 83 5/7.
Illinois Medical College, (1902) 79 5/7.
Rush Medical College, (1881) 69 9/14; (1888) 72½; (1903) 77 9/14; (1902) 85 5/7; (1901) 82 3/14.
Chicago Homeopathic Medical College, (1896) 82 4/7.
Hahnemann Medical College, Chicago, (1903) 78 6/7.
Woman's Medical College (place not given), (1903) 76 6/7.
Tennessee Medical College, (1895) 75 3/14; (1901) 75 2/7.
Washington, D. C., College (?), (1902) 81 5/7.
National University, Washington, D. C., (1901) 81 3/7.
McGill University, (1874) 82½, 85; (1902) 85 6/7; (1901) 84.
Central Medical College, St. Joseph, Mo., (1900) 89 5/7.
Trinity Medical College, (1892) 70 5/7; (1894) 82¼.
Manitoba Medical College, (1899) 96.

FAILED.

Louisville Medical College, (1898) 60 13/14; (1900) 50 1/7.
Kentucky School of Medicine, (1897) 73 1/7.
St. Joseph's Medical College, (1887) 56 6/7.
New Hampshire Medical College, (1875) 63 1/28.
Eclectic Medical Institute, Cincinnati, (1900) 65 4/7.
California Medical College, (1902) 58 4/7.
Cooper Medical College, (1897) 71 4/7.
Rush Medical College, (1896) 62 5/21.

The Public Service.

Army Changes.

Memorandum of changes of stations and duties of medical officers of the U. S. Army for the week ending Nov. 28, 1903.

Torney, G. H., deputy surgeon-general, appointed a member of examining board at San Francisco for promotion of medical officers.

Kilbourne, H. S., deputy surgeon-general, relieved as member of examining board at San Francisco for promotion of officers of the medical department.

Grubbs, R. B., asst.-surgeon, relieved from duty at General Hospital, Presidio of San Francisco, and ordered to Fort Wright, Wash.

Rand, I. W., asst.-surgeon, relieved from duty at Fort Wright, Wash., and ordered to Ord Barracks, California.

Adair, Geo. W., deputy surgeon general, having reported his arrival at San Francisco, Cal., is ordered to St. Paul, Minn., for duty as chief surgeon, Department of Dakota.

Byrne, Charles B., asst.-surgeon-general, relieved from duty as chief surgeon, Department of Dakota, and ordered to proceed to Omaha, Neb., for duty as chief surgeon, Department of Missouri.

Girard, J. B., asst.-surgeon-general, relieved from duty as chief surgeon, Department of Missouri, and ordered to San Antonio, Texas, for duty as chief surgeon, Department of Texas.

Kilbourne, H. S., deputy surgeon-general, relieved as chief surgeon, Department of California, and ordered to proceed to Manila, about Dec. 1, 1903.

Girard, A. C., asst.-surgeon-general, relieved from duty in the Division of the Philippines on the arrival of Colonel Kilbourne, and ordered to San Francisco, Cal., and on arrival to report by telegram to the Adjutant General of the Army.

Brechemin, Louis, surgeon, relieved from duty at Ord Barracks, Monterey, Cal., and ordered to San Francisco, Cal., to assume charge of the medical supply depot in that city.

Torney, G. H., deputy surgeon-general, relieved from duty at medical supply depot and to report to the commanding general, Department of California, for temporary duty as chief surgeon of that department.

Hoff, Jno. Van R., deputy surgeon-general, granted thirty days' leave, to take effect in December, 1903.

Webber, H. A., asst.-surgeon, relieved from duty in Division of the Philippines, now at San Francisco, Cal., will proceed to Fort Walla Walla, Wash., for duty.

Morse, Arthur W., asst.-surgeon, relieved from duty at Fort Walla Walla, Wash., and ordered to Vancouver Barracks, Wash.

Brooks, William H., asst.-surgeon, relieved from duty at Vancouver Barracks, Washington, and ordered to U. S. General Hospital, Washington Barracks, D. C., for duty.

Jean, Geo. W., asst.-surgeon, relieved from duty in Division of the Philippines and ordered to Fort Adams for duty.

Bushnell, Geo. E., surgeon, granted seven days' leave, with permission to apply for twenty-three days' extension.

Richards, Alfred, contract surgeon, granted one month's leave of absence and relieved from duty at Fort Hunt, Virginia.

Bailey, Edward, contract surgeon, relieved from duty at Fort Columbia, Washington, and ordered to San Francisco, Cal., to sail January 1 for Philippine service.

Turner, Samuel S., contract surgeon, ordered from Chicago, Ill., to Fort Columbia, Washington, for duty.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending Nov. 28, 1903:

Huntington, E. O., surgeon, sick leave extended for three months.

Fauntleroy, A. M., asst.-surgeon, when discharged for treatment, ordered to the *Scorpion*.

DuBose, W. R., medical inspector, ordered to duty as assistant to the Bureau of Medicine and Surgery, Navy Department.

Urie, J. F., surgeon, detached from assistant chief Bureau of Medicine and Surgery and ordered to the *Missouri*.

Grayson, C. T., A. A. surgeon, detached from the Naval Proving Ground, Indian Head, Md., and ordered to the Naval Hospital, Washington, D. C.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Nov. 26, 1903:

Sawtelle, H. W., surgeon, granted leave of absence for two days from November 27.

Gassaway, J. M., surgeon, department letter granting him leave of absence for one month, amended so that said leave shall be for twenty-five days from October 12.

Stoner, G. W., surgeon, leave of absence for five days from Nov. 24, 1903, under paragraph 189 of the Regulations.

Wickes, H. W., P. A. surgeon, granted leave of absence for five days from November 28.

Clark, T., P. A. surgeon, to proceed to St. Johns, N. B., and assume temporary charge of service during absence of A. A. Surgeon W. C. Billings.

Lumsden, L. L., P. A. surgeon, on expiration of leave of absence to remain at New Orleans and await assignment.

Billings, W. C., Corput, G. M., and Kerr, J. W., asst.-surgeons, to proceed to Washington, D. C., and report to chairman of examining board to determine their fitness for promotion to the grade of passed assistant surgeon.

Robinson, D. G., asst.-surgeon, to report to chairman of examining board, Port Townsend, Wash., to determine his fitness for promotion to the grade of passed assistant surgeon.

Currie, D. H., asst.-surgeon, to proceed to San Francisco Quarantine, and assume temporary charge of service during absence of P. A. Surgeon H. S. Cumming.

Manning, H. M., asst.-surgeon, relieved from duty at Stapleton, N. Y., and directed to proceed to Honolulu, T. H., and report to chief quarantine officer for duty.

Maguire, E. S., pharmacist, department letter granting leave of absence for thirty days from Dec. 5, 1903, amended so that said leave shall be from December 1.

BOARDS CONVENED.

Board to meet at Washington, D. C., Dec. 7, 1903, for examination of Asst.-Surgeons W. C. Billings, J. W. Kerr and G. M. Corput, to determine their fitness for promotion to the grade of passed assistant surgeon. Detail for the board: Asst.-Surgeon-General L. L. Williams, chairman; Asst.-Surgeon-General W. J. Pettus; Asst.-Surgeon-General G. T. Vaughan, recorder.

Board to meet at Port Townsend, Wash., Dec. 14, 1903, for examination of Asst.-Surgeon D. E. Robinson, to determine his fitness for promotion to the grade of passed assistant surgeon. Detail for the board: P. A. Surgeon J. H. Oakley, chairman; P. A. Surgeon H. S. Cumming; P. A. Surgeon M. H. Foster, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Nov. 27, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, Nov. 8-21, 21 cases.
Colorado: Denver, Oct. 18-31, 10 cases.
Illinois: Belleville, Nov. 8-21, 11 cases.
Louisiana: New Orleans, Nov. 15-21, 1 case.
Massachusetts: Lawrence, Nov. 15-21, 1 case.
Michigan: Detroit, Nov. 15-21, 4 cases.
New Hampshire: Manchester, Nov. 15-21, 3 cases.
New Jersey: Camden, Nov. 15-21, 4 cases, 2 deaths.
New York: New York, Nov. 15-21, 4 cases.
Ohio: Nov. 15-21, Cleveland, 1 case; Youngstown, 11 cases.
Pennsylvania: Erie, Nov. 8-21, 3 cases; Nov. 15-21, Altoona, 1 case; Carbondale, 2 cases; Johnstown, 3 cases; Philadelphia, 68 cases, 7 deaths; Pittsburg, 32 cases, 6 deaths.
Tennessee: Memphis, Nov. 15-21, 3 cases.
Utah: Salt Lake City, Nov. 8-14, 3 cases.

SMALLPOX—FOREIGN.

Austria-Hungary: Prague, Nov. 1-7, 9 cases.
Brazil: Rio de Janeiro, Oct. 19-25, 40 cases, 34 deaths.
Canada: Manitoba, Winnipeg, Nov. 8-14, 1 case.
Colombia: Barranquilla, Nov. 2-18, 1 death.
Ecuador: Guayaquil, Oct. 18-31, 2 deaths.
France: Paris, Nov. 1-7, 3 cases.
Great Britain: Glasgow, Nov. 7-13, 7 cases, 1 death; Manchester, Oct. 25-Nov. 7, 7 cases; Newcastle-on-Tyne, Nov. 1-7, 6 cases.
Java: Batavia, Oct. 11-17, 21 cases, 6 deaths.
Mexico: City of Mexico, Oct. 8-15, 1 case.
Netherlands, Amsterdam, Nov. 8-14, 3 cases.
Russia: Odessa, Oct. 19-25, 5 cases, 1 death; St. Petersburg, Oct. 25-Nov. 7, 126 cases, 2 deaths; Warsaw, Oct. 18-24, 2 deaths.
Spain: Barcelona, Oct. 25-Nov. 7, 2 deaths.
Turkey: Smyrna, Oct. 19-Nov. 1, 68 deaths.

SMALLPOX—INSULAR.

Philippine Islands: Cebu, Sept. 1-30, 5 cases, 1 death; Manila, Sept. 27-Oct. 10, 1 case.

YELLOW FEVER—UNITED STATES.

Texas: Cannel, Nov. 19-23, 4 cases; Laredo, Nov. 20-23, 68 cases, 5 deaths; Minera, Nov. 14-23, 6 cases; San Antonio, Nov. 15-23, 7 cases, 2 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Oct. 19-25, 1 case.
Mexico: Ciudad Victoria, Oct. 25-Nov. 7, 14 cases, 8 deaths; Coatzacoalcos, Nov. 1-7, 2 cases, 2 imported; Oct. 25-Nov. 7, Linares, 86 cases, 17 deaths; Merida, 4 cases, 2 deaths; Tampico, 3 cases; Tehuantepec, 2 deaths; Vera Cruz, Nov. 7-14, 17 cases, 5 deaths.

CHOLERA—INSULAR.

Philippine Islands: Sept. 27-Oct. 10, Manila, 90 cases, 84 deaths; Provinces, 952 cases, 750 deaths.

CHOLERA—FOREIGN.

China: Shanghai, Oct. 3-10, 7 deaths.
Japan: Magasaki, Oct. 20-26, 49 cases, 27 deaths; Yokohama, Oct. 4-10, 1 case, 1 death.
Straits Settlements: Singapore, Sept. 1-30, 9 deaths; Singapore, Sept. 27-Oct. 3, 1 case, 1 death.
Turkey: Syria, Alexandretta, Oct. 18-24, 2 cases, 1 death.

PLAGUE—INSULAR.

Philppine Islands: Cebu, Sept. 1-30, 11 cases, 8 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Oct. 19-25, 54 cases, 20 deaths.
China: Newchwang, Sept. 26-Oct. 3, 144 cases, 142 deaths.
India: Bombay, Oct. 20-27, 64 deaths; Calcutta, Oct. 18-24, 13 deaths.
Japan: Yokohama, May 10-Oct. 17, 29 cases, 23 deaths.

Medical Organization.

California.

MERCED COUNTY MEDICAL SOCIETY.—The physicians of the county met at Merced, November 12, and organized a society on the standard plan with the following officers: Dr. Edward S. O'Brien, president; Dr. Hiram N. Rucker, vice-president; Dr. Walter E. Lilley, secretary; Dr. Herbert De Loss, treasurer, and Drs. A. M. Smith and William A. Whitlock, censors, all of Merced. Dr. Philip M. Jones, San Francisco, trustee of the state society, was present and aided in the work of organization.

Louisiana.

ST. MARY PARISH MEDICAL SOCIETY.—Dr. William M. Perkins, New Orleans, secretary of the Louisiana State Medical Society, and Dr. G. L. Williams, Oak Ridge, councilor for the Fifth District, met with the physicians of the parish, October 24, and organized a county society on the standard plan with the following officers: President, Dr. Sterling J. Gates, Franklin; vice-president, Dr. William J. McLennan, Morgan City, and secretary-treasurer, Dr. Gustave A. Sigur, Glencoe.

BI-PARISH MEDICAL SOCIETY OF ST. JOHN THE BAPTIST AND ST. CHARLES PARISHES.—The physicians of these two parishes met at Edgard, November 2, and organized a bi-parish society with the aid of Dr. Andrew G. Friedericks, councilor for the Second District, and Dr. Louis G. Le Beuf of New Orleans. The following officers were elected: President, Dr. Louis T. Donaldson, Reserve; vice-president, Dr. Newton C. Stevens, Ama, and Dr. Norbert J. Simon, Wallace, secretary and treasurer. The society includes in its membership all the physicians in these two parishes.

North Carolina.

WAKE COUNTY MEDICAL SOCIETY.—In accordance with the standard plan suggested by the American Medical Association, the physicians of Wake County met with Dr. Hubert A. Royster, councilor for the Sixth District, and organized a county society. Dr. Albert Anderson, Wilson, councilor for the Fourth District, was present, and addressed the assembly on the subject of organization. The initial membership was 24. The following officers were elected: Dr. J. J. L. McCullers, McCullers, president; Dr. Lawrence B. Young, Rolesville, vice-president; Dr. Harry G. Utley, Apex, secretary; Dr. Kemp B. Battle, Raleigh, treasurer, and Drs. James M. Templeton, Carey; Robert S. McGeachy, Raleigh, and Benjamin S. Utley, Holly Springs, censors.

Oregon.

LANE COUNTY MEDICAL SOCIETY.—At the annual meeting held in Eugene, November 14, the society decided to reorganize on the standard plan.

Washington.

PACIFIC COUNTY MEDICAL SOCIETY.—This society, of which Dr. George W. Overmeyer, South Bend, is president; Dr. Wilson Grewell, South Bend, secretary; Dr. William Klamke, Ilwaco, vice-president, and Dr. Kennedy, South Bend, treasurer, has received its charter from the State Society.

Wisconsin.

WESTERN WISCONSIN DISTRICT MEDICAL SOCIETY.—This society, which includes the physicians of Eau Claire, St. Croix, Chippewa, Pierce, Dunn and Pepin counties, was organized at Eau Claire, November 17, with Dr. Eugene L. Boothby, Hammond, as president.

Texas.

FAYETTE COUNTY MEDICAL ASSOCIATION.—On November 11 the physicians of Fayette County met at La Grange and, after Dr. Walter Shropshire, Yoakum, councilor for the Eighth (DeWitt) District, had explained the standard plan of organization, perfected the organization of a county society with the following officers: President, Dr. Henry A. Tutwiler, Flatonia; vice-president, Dr. Otto Ehlinger, La Grange; secretary, Dr. P. Chapman, Winchester, and censors, Drs. W. Allen, Flatonia; A. Posch, Round Top, and John S. Zvesper, Ammannsville.

Society Proceedings.

COMING MEETINGS.

Southern Surgical and Gynecological Association, Atlanta, Ga., Dec. 15-17.

Western Surgical and Gynecological Association, Denver, Dec. 28-29.

ACADEMY OF MEDICINE OF CLEVELAND.

Twelfth Regular Meeting, held Oct. 16, 1903.

The President, Dr. Harris G. Sherman, in the Chair.

Importance of the Etiologic Factor in the Treatment of Cystitis.

DR. WILLIAM E. LOWER, the author of this paper, deplored the fact that so many cases of cystitis were treated symp-

tomatically for long periods without having recourse to a cystoscopic examination which would often clear up the exact cause and lead to appropriate treatment and a speedy cure. Many physicians did not realize the ease and safety of this procedure in the hands of a specialist. In an extended series of cases he had failed to see any bad results from such an examination, one of the requirements, however, being an accurate knowledge of the appearance of the normal bladder. In nearly all instances bacteria are causative agents, the principal offenders being the colon bacillus, the staphylococcus, either the albus, aureus or citreus, the streptococcus, the tubercle bacillus and the gonococcus, the last two being rarely found alone. He insisted on the importance of treating urethral strictures, which often caused diverticula in the thickened bladder wall forming pockets of pus which often defied evacuation by simple vesical irrigation. When an insuperable obstacle to free drainage from below exists he advises suprapubic drainage. The value of cystoscopy in case of calculi or foreign bodies in the bladder was instanced by cases in which repeated sounding had failed to locate a stone which was at once revealed by cystoscopic examination.

Fourth of July Wounds.

DRS. DUDLEY P. ALLEN and A. I. LUDLOW presented a paper entitled "Wounds from Blank Cartridges, Observations on Sixteen Cases Cared for at Lakeside Hospital about July 4, 1903." The injuries were located in the abdominal wall once, in the scrotum once, and in the hand fourteen times; in the abdominal case the external wound was very small, but increased in size deeper down, the whole thickness of the wall was penetrated and the wad was found imbedded in the intestinal wall; on admission to the hospital several days after the accident the patient was suffering from septic peritonitis, to which he speedily succumbed. Of the remaining 15 cases, 10 were treated as soon as admitted by free opening of the wound under anesthesia, excision of the badly torn fragments of tissue, removal of the particles of wad, irrigation and packing with iodoform gauze. All of these recovered. Three had been admitted within 12 hours of the injury, 6 within 2 days, and 1 within 9 days. The remaining 5 cases, 4 of which were wounded on the hand and 1 in the scrotum, were suffering from tetanus on admission, the symptoms having appeared in 1 case within 6 days of the injury, in 2 cases within 7 days, and in 2 cases within 8 days. All had been incised and cleansed before coming to the hospital, but in no instance had this been thorough, portions of the wad being found in all of them on further exploration and cleansing. Antitetanic serum was given to all, in one case by injection into the lateral ventricles; antispasmodics and anodynes and even chloroform inhalations were also administered, but all died.

Dr. Allen was prompted to read this paper both on account of the professional interest of the subject and also by a sense of its public importance. The toy pistol of to-day is a much more dangerous weapon than that of a few years ago, which used paper caps. The injuries caused by these blank cartridges are even worse than those caused by bullets. He felt that the increasing mortality demands prohibition of the toy pistol. Dr. Ludlow presented the results of cultural and animal experiments from this series of cases. In 5 of the 10 cases of wounds of the hand primarily treated at the hospital cultures in 3 were sterile, in 2 streptococcus and staphylococcus albus were found. In the 5 cases with tetanus one proved sterile, possibly from the free use of bichlorid in the wound; 2 showed the *Bacillus aerogenes capsulatus* and the *Bacillus mucosa capsulatus;* the two just mentioned occurred with the streptococcus and a pseudotetanus bacillus in one case and in another with the tetanus bacillus. In the animal inoculations from the case showing tetanus one guinea-pig died with tetanic symptoms, but only the *Bacillus aerogenes capsulatus* was recovered from the site of inoculation. A number of dogs and guinea-pigs were experimentally shot with blank cartridges, and in others subcutaneous implantations of the contents of cartridges were made, but so far none had developed tetanus. The time elapsed has not yet been sufficient to bar the possibility of its development in some of these. Dr. Ludlow thinks the occurrence of the *Bacillus aerogenes capsulatus* in all these fatal cases may be of value in suggesting further research along this line.

The paper was discussed by Drs. Briggs, Ladd, Hansom, Lincoln, Bunts, Friedrich, Rossenwasser, Wirt, Baker, Searl, Ballard and Moorehouse, some of whom quoted from the extensive article on this subject in THE JOURNAL, Aug. 29, 1903, entitled "The Fourth of July, 1903, Casualty List."

A resolution calling on the city council to prohibit the sale of toy pistols was then discussed and passed unanimously.

NORTH BRANCH PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held Oct. 8, 1903.

Dr. H. Brooker Mills in the Chair.

SYMPOSIUM ON SYPHILIS.

Recognition and Treatment of Acquired Syphilis.

DR. S. LEON GANS read a paper in which he called attention to the importance of always bearing in mind the essential pathologic lesion—the round-cell infiltration. The chancre, he stated, was rather a building-up than a breaking-down process, and pus is not always present. They usually appear only singly, and careful attention should be given to the mixed sore of Rollet in order to avoid further skin complications. The condition of the epitrochlear and postcervical ganglia should be carefully noted, as should also the history of susceptibility to rheumatism, headache, follicular tonsillitis, cephalgia, and all mouth and throat conditions; and all the superficial lymph glands should be carefully examined.

The cases which are particularly apt to be overlooked are those in which the syphilides are manifested by only one or two erythematous spots, the subsequent eruptions being delayed for months, or probably never appearing.

As to treatment, excision was not recommended. The sore should be kept clean, quiet and dry, and iodoform should be employed twice daily after immersion of the organ in hot water for ten minutes. For the treatment of the secondary lesions, the stomach and skin were thought to be the preferable routes of administration, although in selected cases hypodermics and vapors might be used; the author believed that the proper course was to wait for the full development of the disease as signified by the early syphilides, in the interim correcting any gastro-intestinal or nervous conditions. Tobacco, whiskey and champagne must be eliminated. The patient should be warned of his condition and the necessity for strictly following directions, and taking plenty of sleep and careful attention to hygiene.

Hereditary Syphilis.

DR. HOWARD S. KINNE read this paper, in which he stated that the manifestations are usually worse in the first child, thus showing that the tendency to transmission is less as the time goes on. It differs from acquired syphilis in that there is no chancre, nor can the symptoms be classed under distinct periods. The chief differential point is the alteration which inherited syphilis impresses on the nutrition and development, as is evidenced by the fatal marasmus, or acute inflammation of the epiphyses or chronic osteoperiostitis, producing deformity of the bones. The family history should be carefully considered, although the symptoms are varied and usually appear about six weeks after birth, consisting of coryza, erythematous or, in some instances, papular rash, soreness of the corners of the mouth, irritation of the laryngeal mucous membrane, and, unless the infection is very light, marked anemia, interference with the digestion and wasting of the body. Antisyphilitic treatment of the pregnant mother will reduce very materially the chances of the offspring being infected. The child should be carefully nourished, preferably breast-fed, and proper hygienic measures should be observed. Mercury and iodid should not be given unless symptoms require.

Diagnosis and Treatment of Syphilis of the Central Nervous System.

DR. LUTHER C. PETER considered only those conditions which were due to the direct action of the infection and not the symptoms due to organic changes following long after the disease has disappeared, in which he stated that variability in symptoms, absence of systematic grouping of symptoms, paralysis of cranial nerves, Argyll-Robertson pupils, irregularity of pupillary margin, inequality of pupils, apoplectiform and epileptiform attacks, recurring palsies, usually without loss of consciousness, numbness in extremities, increased reflexes, headache, vertigo and altered mental states, are symptoms which point to syphilis of the brain and its coverings. He reported the case of a man aged 39, the disease first developing several years after the appearance of the chancre, commencing with recurring numbness in the extremities, impairment of the bladder function, diplopia, headache, vertigo, difficulty in speech at times, spastic palsy of the left leg, partial palsy of the left arm, Argyll-Robertson pupil, impairment of sensation to the touch. He died six years after coming under observation from pneumonia, and postmortem examination revealed syphilis of the brain and cord and their coverings. The intermittent treatment with potassium iodid and mercury, the latter preferably by inunctions, was recommended, and it was felt that it should be persisted in for several years.

The Recognition and Treatment of Some of the Pharyngeal Lesions of Syphilis.

DR. LEWIS S. SOMERS considered: (1) The erythema; (2) the mucous patch, and (3) the ulceration. Erythema, he believed, was frequently mistaken for catarrhal pharyngitis or tonsillitis, especially in private practice. An examination of the erythema, however, will reveal a copper hue, and a marked tendency of small irregular patches of cloudy swelling to enlarge and present a bluish-white color; this is the mucous patch, the most frequent site of which is on the soft palate, pillars and tonsils, being oval, circular or stratiform in shape. In ulceration, the parts are covered with a thick, mucopurulent, offensive secretion; there is marked tendency to osseous destruction, particularly when the palate is involved. Tuberculosis, lupus, carcinoma and diphtheria may all conflict with this disease, although the former three would usually manifest prominent symptoms in other parts of the body, and the latter can easily be recognized by the presence of the specific organism. Three important diagnostic aids are: history of the initial infection, evidences of the disease in other parts of the body, and the response to specific treatment. Unless one of these is obtained one can not be perfectly sure of the diagnosis. Dr. Somers had obtained the best results in the erythema with proto-iodid of mercury in one-fourth to one-third grain doses two to three times daily; the disappearance of the congestion being accelerated in occasional cases by an astringent gargle. The same form of mercury, aided in some cases by the application of 20 to 50 per cent. solution of nitrate of silver, locally in some cases, and in others by the local application of a solution of chromic acid, has given the best results.

Syphilis of the Eye.

DR. WENDELL REBER said the most usual site for the primary sore is at the margin, or just without the margin, of the lids. The secondary phase is most frequently in the uveal tract. Records show 50 per cent. of all cases of iritis to be specific; this fact he believed was sufficient ground for suspecting every case of iritis until trauma, tuberculosis, microbic infection or the rheumatic diathesis has been shown to be causative. Choroiditis is as frequently of specific origin as iritis and is a valuable adjunct to diagnosis. The most frequent tertiary involvement are the intra-ocular and extra-ocular palsies, and these conditions, in the absence of diabetes or trauma, are usually of specific origin and the forerunners of locomotor ataxia or general paresis.

DISCUSSION.

DR. F. SAVARY PEARCE felt that the presence of diplopia should always be suggestive of specific disease, especially when in conjunction with headache, which is usually worse at night and with increased reflexes. The reflexes are usually out of all proportion to the spasticity, which is due to the fact that the tertiary symptoms encroach on the nerves and irritate the motor cortex of the brain without destruction.

DR. A. BERN HIRSH believed that the patient, when apparently cured, should be instructed to inform any physician who might in the future treat him for a return of such symptoms that so many years ago he had had similar symptoms.

DR. S. L. GANS felt that the physician was sometimes misled by the patient's social standing; he directed particular attention to the necessity of recognition of slight throat lesions.

DR. L. C. PETER felt that as good results could be obtained from small doses of potassium iodid as from the larger ones. Nervous syphilis he believed occurred within six months after the initial lesions, although there are exceptions, one of which had come under his notice in the case of a man suffering from hereditary syphilis, who was entirely free from symptoms from 6 to 45 years of age, at which time he had severe meningitis and cerebral ataxia.

DR. LEWIS S. SOMERS called particular attention to the necessity for impressing on the patient the exceedingly infectious character of the disease, and emphasized the value of tonic treatment in addition to the specific remedies.

Drs. Frank White, William H. Good, L. Sharp, A. Bernheimer and Carl Lee Felt also took part in the discussion. Cases were reported to show the obscurity of the syphilitic factor.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Eczema of the Eyelids.

Brocq, in *Med. Press*, recommends, in the treatment of eczema of the eyelids, first a dietary excluding wine, alcohol, pork, cheese, fish and spicy food. Laxatives and cod-liver oil are advised in the general treatment. Locally he applies compresses of a warm boric acid solution morning and evening, after which the following application is applied locally:

℞. Zinci oxidi
Pulv. amyli, āā ..... ℥iiss 10
Lanolini
Vaselini, āā ..... ℥iv 15
M. Ft. unguentum. Sig.: Apply locally. After the inflammatory period has subsided the following ointment is applied:

℞. Ung. hydrarg. oxidi flavi ..... gr. x 65
Liq. petrolati ..... ℥vi 25
M. Ft. unguentum. Sig.: Apply locally night and morning.

Barber's Itch.

The following combinations are recommended by *Merck's Archives* in the treatment of barber's itch:

℞. Resorcin ..... ℥i 4
Glycerini ..... ℥ii 8
Ung. aq. rosæ q. s. ad ..... ℥ii 60
M. Ft. unguentum. Sig.: Apply locally several times a day, first removing the crusts with sweet oil; or:

℞. Naphthol resublim. ..... ℥ss 2
Saponis mollis
Cretæ prep.
Sulphuris loti
Lanolini, āā ..... ℥iii 12
M. Sig.: To be applied on the face at bedtime.

Furunculosis.

In furunculosis the same author recommends strong purging by administering a glass of some mineral water daily for three or four days, when a teaspoonful of fresh beer yeast is ordered given in teaspoonful doses before each meal in a glass of water. This should be continued for eight days.

Wine, alcohol and pork must be excluded from the diet. If the digestive tract is in good condition, cod-liver oil, arsenic and iron may be given with benefit. Locally an effort should be made to arrest the development of the boil by the application of the tincture of iodin or lint moistened with spirits of camphor or a mixture of both in equal parts. The following has also been recommended:

℞. Iodi 3i 4
Acetone 3iii 12

M. Sig.: The boil should be touched lightly with this mixture and usually it is dried up the following day. This preparation is very caustic and should be applied with care.

Gastric Neurasthenia.

Blackburn, in the *N. Y. Med. Times*, recommends, in the treatment of gastric neurasthenia, physical rest, specific instructions to the patient as to hours for sleep and for rest during the day and a demand that they be closely followed. Patients should be warned against overexercising.

The Weir Mitchell rest treatment may be instituted for a time, but as a rule is not necessary in the gastric form. Hydrotherapy in the form of sponge, shower or cold douche in the morning is of service. The diet should be nourishing and non-stimulating. As to the medicinal treatment, he recommends proper elimination, the relief of constipation by a laxative containing aloes. As a tonic he recommends the syrup of hypophosphites with strychnia. One of the following combinations may be of service to relieve the constipation in such cases, as recommended by *Rev. Francaise de Med. et de Chir.*

℞. Tinct. gentianæ
Tinct. calumbæ, āā 3i 4
Tinct. nucis vom. 3ss 2

M. Sig.: Twelve to fifteen drops in water before each meal; or:

℞. Pulv. nucis vom. ..... gr. ss | 03
Ext. gentianæ ..... gr. iss | 09
Pulv. gentianæ q. s.

M. Ft. cap. No. i. Sig.: One such capsule once or twice daily.

Alcoholic Excess.

The following combination is recommended by O. H. Snider, in *Med. Bulletin*, in the treatment of excessive use of alcohol followed by extreme depression, irritable nervous system and cerebral disturbances:

℞. Sodii brom. 3ii 8
Ext. hyoscyami flu.
Ext. lobeliæ flu., āā 3i 4
Ext. pulsatillæ flu. ..... gtt. xx 1 | 30
Ext. lupulini flu. 3ii 8
Aquæ menth. pip. q. s. ad 3ii 60

M. Sig.: One teaspoonful and repeat in four hours if necessary. The patient must be given rest and comfort. During convalescence strychnia or nux vomica should be given with the bitter tonics.

Administration of Digitalis.

In an abstract in *Ther. Gazette*, Barié of Paris points out errors which may be committed in giving digitalis without having first thoroughly cleansed the digestive tract. He therefore recommends a purgative such as the compound jalap powder in preference to castor oil or salines previous to administering digitalis. He also emphasizes the importance of absolute rest in bed and a milk diet. In some cases the presence of edema and ascites and effusion into the pleural cavity is such an obstacle that the digitalis can not have much effect until the excessive venous pressure is relieved. Under such circumstances venesection should be performed, removing about 300 grams to relieve the stasis. He also states that digitalis should not be begun in large doses when tricuspid insufficiency is present, as this is a sort of safety valve. Aged persons and those suffering from arteriosclerosis are to be given digitalis with care as the kidneys are apt to be deficient and the arteries bad. It should never be given to patients suffering from anemia, dyspepsia, Basedow's disease, tuberculosis in its initial stage or to those who are addicted to smoking. It should never be used in aortic insufficiency in its initial stage owing to the fact that it increases the length of diastole. Such drugs as opium, the iodids, alcohol, and tannic acid should not be used at the same time with digitalis.

Antiseptic and Cleansing Sprays.

The following combinations are recommended by Shurly in his "Dis. of Throat and Nose":

℞. Sodii benzoatis ..... gr. v | 30
Acidi carbol. ..... gr. i | 06
Glycerini 3i 4
Aq. destil. 3vii 28

M. Sig.: To be used in the atomizer as an antiseptic spray.

In all forms of acute coryza the following is recommended:

℞. Sodii benzoatis 3ss 15
Aq. calcis 3viii 240

M. Sig. As a nasal spray or douche.

In syphilitic lesions and ulcerations the following is of service:

℞. Hydrarg. bichloridi ..... gr. i | 06
Aq. cinnamomi 3viii-xvi 250.-500

M. Sig.: Locally to the pharynx and larynx.

As an astringent to the throat the following is advised:

℞. Sodii bicarb. ..... gr. xxv 1 | 65
Ext. hamamelidis destil. 3i 30
Aq. destil. 3v 150

M. Sig.: As a cleansing and astringent spray.

As an anodyne the following:

℞. Menthol ..... gr. i | 06
Alcoholis ..... m. v | 30
Calc. phos. precip. ..... gr. v | 30
Aquæ q. s. ad 3ii 60

M. Sig.: Locally as an anodyne.

The following containing alumnol is serviceable as an astringent and anodyne to the tissues of the throat:

℞. Cocainæ ..... gr. v | 30
Alumnol ..... gr. x | 65
Aquæ menthol 3i 30

M. Sig.: Locally as an astringent; or:

℞. Menthol ..... gr. v | 30
Glycerini 3ii 60
Cocainæ ..... gr. xx 1 | 30
Aquæ 3ii 60

M. Sig.: Locally as an astringent and anodyne.

Vomiting During Administration of Chloroform.

According to Stuver, in *Denver Med. Times*, painting the mucous membrane of the nares with a 2 per cent. solution of cocain will prevent, in the majority of cases, the vomiting which so frequently accompanies chloroform anesthesia. He has employed this method in about twenty cases with splendid results. In several of the cases in which the patients had suffered a great deal from vomiting during previous operations, this method had prevented all such symptoms. He applies the solution thoroughly to the mucous membrane by means of a cotton-wrapped applicator, ten or fifteen minutes before starting the anesthetic. The cocain inhibits the reflex action and irritation of the stomach which, if present, frequently inhibits the heart's action. According to the author observations have been made which show that irritation to the nasal mucous membrane may affect the heart's action through irritation of fibers of the pneumogastric, consequently by the above procedure the danger of cardiac and respiratory failure, as well as shock, are decidedly lessened.

Medicolegal.

Keeping Registry of Births and Deaths Without Pay.—Sections 2582 and 2583 of the Kentucky Statutes of 1899 make it the duty of all physicians, surgeons and midwives to keep a registry of all births and deaths which they have professionally attended, and to report them to the county clerk. In the case of Commonwealth vs. McConnell, where there was an indictment for non-compliance with these requirements, it was urged that the statute was unconstitutional because

it required physicians to perform a service without compensation, and that the legislature had no power so to do. But the Court of Appeals of Kentucky does not think the statute unconstitutional on that ground and affirms that the legislature has authority to require said duties.

Minnesota—Restricts Commitment of Harmless Insane.—Chapter 106 of the Laws of Minnesota of 1903 provides that no harmless person, who can not be benefited by hospital treatment, shall be committed to any hospital for the insane merely because he is suffering from idiocy, epilepsy, imbecility or infirmity of old age. Every jury appointed to examine an alleged insane person, in addition to the facts by law required to be ascertained, shall ascertain and determine whether or not such patient can be benefited by hospital treatment. The superintendent of any hospital for the insane, with the approval of the board of control, may at their discretion discharge or parole any inmate of such institution who is capable of caring for himself or can be cared for by relatives, and who is not dangerous to himself or the community.

Minnesota—Puts Check on Compulsory Vaccination.—Chapter 299 of the Laws of Minnesota of 1903 provides that hereafter it shall be unlawful for any board of health, board of education, or any other public board or officer, acting in the state under police regulations or otherwise, or under any general law or city charter however adopted, to compel or require the vaccination of any child, or to make vaccination a condition precedent to the attendance at any school in the state, or to exclude any child or other person from attendance on any school on account of such child not having been vaccinated; except that, in epidemics of smallpox, such boards of health and boards of education may, by joint action, require such vaccination by a duly licensed and practicing physician, to be selected by the person to be vaccinated; provided, that any child may be exempt from the provisions of this act where a reputable physician certifies in writing that on account of said child's physical condition such vaccination would be dangerous to the child's health.

Minnesota—Establishes Sanatorium for Consumptives.—Chapter 316 of the Laws of Minnesota of 1903 provides for an advisory commission of five physicians (one a homeopath) and the establishment of a sanatorium for consumptives near Walker, in Cass County. The commission shall appoint in each county from one to three reputable physicians who shall examine on the presentation of orders from the superintendent of the sanatorium all persons applying for admission and determine whether such persons are suffering from incipient pulmonary tuberculosis, and forthwith report the result of such examinations to the superintendent of the sanatorium. Only persons suffering from incipient pulmonary tuberculosis shall be received as patients in the sanatorium. One of the prescribed duties of the superintendent shall be to oversee and secure the individual treatment and personal care of each patient while a resident in the hospital and to keep a proper oversight of all inhabitants thereof. He must also maintain a salutary discipline among all employes, patients and inmates and enforce strict compliance with his instructions and obedience of all rules and regulations; he must cause full and fair accounts of the conditions and prescriptions of the patients to be kept regularly from day to day in books provided for that purpose. The inmates must pay when able to do so, but any person unable to pay the charge for support determined by the board of control may be admitted on the request of the county commissioners of the county whereof such person is a resident, and the charges for the board of such person shall be paid by such county.

New Mexico—To Encourage Establishing Sanitariums.—Chapter 17 of the Laws of New Mexico of 1903 provides that any company or corporation which shall, within one year from the passage of this act, commence and within two years after the passage of this act shall have expended at least $100,000 in the construction of a sanitarium in New Mexico for the care of invalids and persons with tuberculosis and other pulmonary diseases, shall thereafter be exempt from taxation on all property actually used in connection with such sanitarium for a period of six years after the expiration of two years after the passage of this act.

New York—Ban on Careless Distribution of Medicines.—Chapter 494 of the Laws of New York of 1903 provides that any person, corporation, etc., who distributes or causes to be distributed, any free or trial samples of any medicine, drug, chemical or chemical compound, by leaving the same exposed on the ground, sidewalk, porch, doorway, letter boxes, or in any other manner, that children may become possessed of the same, shall be guilty of a misdemeanor, etc.

New York—Requires Consents for Tuberculosis Camps.—Chapter 638 of the Laws of New York of 1903 provides that a hospital camp or other establishment for patients with pulmonary tuberculosis shall not be established in any town unless the board of supervisors of the county, and the town board of the town, shall each adopt a resolution authorizing the establishment thereof, and describing the limits of the locality in which the same may be established.

New York—Creates Office of Medical Inspector.—Chapter 221 of the Laws of New York of 1903 amends Section 4 of Chapter 545 of the laws of 1896, by providing that the commission in lunacy may appoint a medical inspector, who shall be a well-educated physician, a graduate of an incorporated medical college, and who shall have had actual experience in an institution for the care and treatment of the insane. Such inspector shall receive an annual salary of $3,500, and traveling expenses. He shall, subject to the direction of the commission, inspect the state hospitals and other institutions for the insane which are subject to the supervision or visitation of the commission, and shall make an examination, so far as circumstances may permit, of the patients therein confined, especially those admitted thereto since his preceding visit, giving such as may request it suitable opportunity to converse with him apart from the officers and attendants. He shall perform such other duties as may be prescribed and directed by the commission.

North Dakota—Prohibition on Distribution of Drugs.—Chapter 81 of the Laws of North Dakota of 1903 provides that any person who shall by himself, his servant or agent, or as the servant or agent of any person, leave or deposit on the doorstep or premises owned or occupied by another, or who shall deliver to any child under 14 years of age, any patent or proprietary medicine or any preparation, pill, tablet, powder, cosmetic, disinfectant or antiseptic, or any drug or medicine that contains poison or any ingredient deleterious to health, as a sample, or in any quantity whatever for the purpose of advertising, shall be deemed guilty of a misdemeanor. The terms used in this act shall include all remedies for internal or external use, either in packages or bulk, simple, mixed or compounded.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical News, New York.

November 21.

1 *Experiments to Determine the Value of Formalin in Infected Wounds of the Eye. J. H. Claiborne and Edward B. Coburn.
2 *"The Heart Cure"; Its Terminology, Purposes and Achievements, Including the Etiology of Fatty Degeneration. Homer Wakefield.
3 *The Relation of Mild Types of Diphtheria to the Public Health. Thomas W. Salmon.
4 *Chronic Villous Arthritis, with Special Reference to Its Etiology and Pathology. (Continued.) Charles F. Painter and William G. Erving.
5 Eclampsia Hemorrhagica. Report of a Case. Ralph W. Lovenstine.
6 Who May Benefit by Altitude Treatment? J. N. Hall.

1. **Formalin in Infected Eye Wounds.**—The experiments of Claiborne and Coburn were made on rabbits' eyes, and are reported in detail. They find that formalin, 1 to 500, can be injected into the vitreous of rabbits without producing more than momentary disturbance. It is possible to cause panophthalmitis and destruction of the eyes by injecting

minims of a turbid solution of streptococci into the vitreous. It is also possible to produce the same result by infection in the ciliary region caused by penetrating wounds with infected pointed instruments. Infections of the vitreous and ciliary region do not necessarily cause destruction of the eye. At times the inflammatory symptoms gradually subside and the eye recovers spontaneously. Formalin, 1 to 1,000, when injected into the vitreous has no influence on streptococcus infection. The results of these experiments warrant the treatment of commencing infections of the eye by injections into the capsule of Tenon of 1 in 1,000, or even 1 in 500, formalin solution.

2. **"The Heart Cure."**—This method, which is not properly designated as the Nauheim or Schott method in Wakefield's opinion, is described at length. He first considers the pathologic conditions, and holds that the two principal degenerations of heart disease, namely, gelatiniform and fatty metamorphosis, are entirely due to and dependent on suboxidation from cardiac and blood deficiencies, and are preventable, arrestable and restorable in the great majority of cases. His own plan of treatment is to restore oxidation and to lighten the heart's load and clear out the vascular system. He uses oxygen by free inhalation through a tube of an abundance of nascent oxygen gas, or the whole atmosphere of a small room is impregnated with it. He administers iron and enemas of a 50 to 100 per cent. saturated solution of sodium bicarbonate, sometimes adding hydrogen peroxid, all at a temperature of blood heat. He always gives glycerophosphates or phosphorated oil internally. To clear out the portal and vascular system in general he uses very small doses of calomel and a saline cathartic, supplemented by warmth to the extremities and drinking cold water between meals. But the restoration of oxidation is by far the best remedy for the clearing of the circulation, the relief of resistance to arterial flow and consequent relief to the heart. He finds that a teaspoonful dose of hydrogen peroxid every three hours has restored the twenty-four-hour urine to about 50 ounces in cases of serious anuria, where one-twenty-fifth-grain doses of nitroglycerin had singularly failed. He has repeatedly promptly arrested cardiac hemorrhages with immediate inhalations of nascent oxygen gas and, combined with soda colon injections, they have promptly controlled and entirely reduced marked thoracic and abdominal dropsies. As the patients improve he gives light frictional brushings and massage, and begins the bath treatment by immersing the feet in a carbonic acid or a capsicum bath. He thinks the real secret of the bath cure lies in its physiologic effect as a cold bath, and that carbonic acid and alkalies simply counteract the cold by stimulation. Among the drugs, he specially mentions ergot and adrenalin in well-adapted cases. The last one, however, is dangerous for careless prescribing. Arsenic, phosphates, lead, etc., even mercury in large doses, are contraindicated. For beverages he disbelieves in the free administration of liquor, but when not continuously given it is a valuable stimulant for emergencies. He often institutes the full bath before the patient is able to walk to and from the baths or from one room to another. In using the glycerophosphates he warns against proprietary preparations containing an abundance of alcohol and sugars.

3. **Diphtheria.**—Salmon calls attention to the occurrence of catarrhal diphtheria, as he calls it, in which there is no false membrane. He urges the necessity of its isolation.

4. **Chronic Villous Arthritis.**—Painter and Erving's article is continued with reports of cases. The etiology is also discussed; trauma, infections, diathetic conditions, etc., and the clinical history described. The treatment varies with the cause. Very many of the early cases when caused by pronated or flat foot, where the condition in the knee joint is that of a passive hyperemia due to the malposition, are promptly and permanently cured by appropriate support, adhesive plaster strapping, etc. Where due to diathesis such treatment is only palliative and in these cases where it fails operative measures should be taken. The technic of the operation is described. (The article is to be continued.)

Medical Record, New York.

November 21.

7 *Traumatic Locomotor Ataxia. Allan M. Hamilton.
8 *Intravenous Injections of Colloidal Silver in the Treatment of Erysipelas. Warren Coleman.
9 Chronic Cyanosis of the Extremities Associated with Polycythemia and Splenomegaly. Joseph Collins.
10 *The prognosis and Treatment of Chronic Deafness. Philip D. Kerrison.
11 *Internal Administration of Ichthyol in Pulmonary Affections. Maurice Rosenberg.
12 An Extreme Case of Bradycardia. L. E. Norfleet.

7. **Traumatic Locomotor Ataxia.**—The conditions here described are chiefly the hysterical results of traumatism though other conditions are recognized as possibly suggesting permanent injury in the posterior columns. Hamilton also relates cases of traumatic neuritis with recurrent hyperemia and pressure, and cases illustrating different types of pseudotabes.

8. **Erysipelas.**—Coleman reports 5 cases of erysipelas treated by intravenous injections of colloidal silver. The method is harmless, and he describes the technic. He uses a hypodermic needle and injects as near as possible in the long axis of the vein, if necessary withdrawing a little blood to be sure that it is properly inserted, avoiding all chance of introducing air. The contents of the syringe should be injected slowly and none allowed to escape into the tissues where it would produce burning pain which might last for hours. He injects 5 to 10 c.c. of 1 per cent. solution. While not venturing to draw conclusions too positively, he is convinced from his experience with some 20 cases of the harmlessness of the method, and recommends it in appropriate conditions. If the injections do not benefit the patient, he says, they will do no harm.

10. **Chronic Deafness.**—Kerrison notices the various forms of chronic deafness due to tubal catarrh, hypertrophic catarrh, suppurative processes and chronic hyperplastic otitis. He concludes that there are certain cases of advanced catarrhal deafness, even without evidence of serious labyrinthian involvement, that do not respond to treatment, but that in a large proportion of cases the power of audition can be distinctly improved. In the early stages of catarrhal or tympanic deafness the majority of cases are susceptible to practically complete cure. In the advanced stages of catarrhal deafness rational treatment often results in improvement, which adds to the pleasures of life, though the normal hearing power may never be regained. Where a slight improvement of hearing is brought about, the result is often of value to the patient in arresting a process that may otherwise lead to pronounced or total deafness.

11. **Ichthyol in Pulmonary Affections.**—Four cases are reported by Rosenberg, who administers the drug in water, never in capsules, giving it before meals. In no case was there any digestive disturbance except a slight diarrhea, with some eructation, which stops when the patient becomes accustomed to the drug. He finds it increases assimilation, improves nutrition, checks pain, increases the body weight and acts as a germicide against the tubercle bacillus. Though he does not put it before the profession as a specific, he has found that much good can be derived from its use.

New York Medical Journal.

November 21.

13 *Ocular Headache and Other Ocular Reflexes; a Statistical Study. (To be continued.) M. W. Zimmerman.
14 *A Clinical Study of the Use of Antitoxin Serum (Dunbar's) in Hay Fever During the Season of 1903. A New and Distinct Advance in Its Management. Alexander W. MacCoy.
15 *The Treatment of Acute and Subacute Anterior Gonorrhea by Retrograde Injections of Stronger Solutions of Silver. (To be continued.) Hermann G. Klotz.
16 *The Early Operative Treatment of Tuberculous Osteitis of the Knee. (To be concluded.) Bernard Bartow.
17 Brain-fag, and Its Effects on Health. John Knott.
18 The Course and Diagnosis of Variola.—Based on Its Last Outbreak in New York City. William L. Somerset.
19 *The Effect of Lemon Juice in the Mixture Known as Lemonade on Typhoid Polluted Water. William G. Bissell.

13. **Ocular Headache.**—Zimmerman has investigated optical errors as related to the production of headaches, and gives the results. In 1,000 private cases he found frontal headache in 279; no details in 257, and small numbers with headaches localized elsewhere. In 1,000 hospital cases the proportion

of frontal headache was still greater, being 391. The similarity between the two series was very marked. As regards the conditions of sight and muscular errors, he found hypermetropic astigmatism to predominate in the production of headaches or co-exist with such. In 277 cases of heterophoria without headache there were 129 cases of hypermetropic astigmatism with small numbers of other types. In heterophoria with headache the hypermetropic astigmatism occurred in 356 out of 550 cases. (The paper is to be continued.)

14. **Hay Fever.**—MacCoy has used Dunbar's serum and reports 6 cases. In a total of 15 cases with which he experimented the effect was promptly manifested and relief complete. They appeared to confirm the contention of Professor Dunbar that cases of hay fever are dependent on toxins resident in the pollens of various grasses. MacCoy thinks this opens up a new field in serum therapy, being, as far as he is aware, the first instance of the production of antitoxin serum or fluid where the animal product has been crossed with the vegetable product.

15. **Gonorrhea.**—Klotz has employed deep injections of silver solutions, passing the injection syringe back to the bulbar region and there injecting from a side opening in the nozzle, and gradually withdrawing it, the meatus being closed. After two minutes or more the fluid is allowed to escape, and usually another syringeful is injected. Finally, some absorbent cotton is placed in front of the meatus to absorb the excess. The burning sensation produced is of short duration. An increased discharge appears, almost cheesy looking, which diminishes or disappears after ten to twelve hours. At this time the patient begins in the usual way to use some of the common antiseptic or astringent solutions. If an increase in the discharge appears in four or five days the silver injections should be repeated, usually in stronger solution than at first, and in this way the treatment is continued. Finally, a test of the effects of beer and whisky is allowed. He has been surprised with the good results in some of these cases. As to the solutions used, he has tried ichthargin, argentamine, albargin, protargol and argonin. After an extensive trial he has been very well satisfied with albargin which acts mildly and is clean. He uses a strength of from 1 to 5 per cent. He finds that, after all, the solutions of nitrate of silver have sometimes proven most reliable, the more so the longer the disease has lasted. (The article is to be continued.)

16. **Tuberculous Osteitis of the Knee.**—The method advocated by Bartow is an operative procedure, trephining the condyle in the suspected locality and removing any local focus of infection, followed by a correction of the knee malposture. The employment of this operation when tuberculous osteitis has advanced too far has led to a discrediting of its value. The presumed impossibility of locating the focus, with the possible presence of multiple foci, have also had their effect. He thinks, however, from his own experience, that the method deserves further employment. (The paper is not completed in this issue.)

19.—See abstract in THE JOURNAL of November 21, p. 1293.

American Medicine, Philadelphia.

November 21.

20 *The Treatment of Surgical Shock by Adrenalin. Edward Martin and M. E. Pennington.
21 Nine Cases of Resection of the Intestine. George Tully Vaughan.
22 A Unique Case: Molluscum Fibrosum of the Rectum in a Patient with the Typical Skin Lesion. A. B. Cook.
23 *Growth and Development of Children in Colorado. Charles F. Gardiner and Henry W. Hoagland.
24 The Use and Abuse of Fresh Air and Over-feeding in Tuberculosis. W. H. Prioleau.
25 A Consideration of General Anesthesia with a Presentation of Instruments. Frederick Griffith.
26 The Influence of the University of Maryland on Medical Education. John C. Hemmeter.

20. **Adrenalin in Surgical Shock.**—The action and outcome of adrenalin in the system is discussed by Martin and Pennington, who report the results of experiments and also 5 instances of the clinical use of the drug in shock. All the cases were practically moribund, and there was not one in which there was a fair chance of recovery. The clinical evidence is therefore inconclusive. Laboratory experiments apparently show that the intravenous injection of adrenalin is the most powerful, practicable cardiac and vasomotor stimulant yet presented to the profession. It also stimulates the respiratory center and increases metabolism and body temperature, but it is inert so far as its systemic effect is concerned when given either by the mouth or by the rectum on account of its rapid alteration in the body. The toxic dose for man is not known, but is probably over a hundred times greater than that usually employed. The dilution, on account of the tendency to abscess formation, should be at least 1 to 10,000 when given hypodermically, but he thinks it is safe to give an initial dose of 10 c.c. of 1 to 1,000 in 90 c.c. of normal salt solution. In cases of urgency adrenalin chlorid should be given intravenously in a dilution of 1 to 10,000, injected slowly to prolong the effects of the drug, and should be pushed up to 100 c.c. of the strong solution or until the heart clearly and unmistakably responds. As yet there is no convincing clinical proof that it is as efficacious when used on man as laboratory experiments would lead us to believe. On account of its power of lessening the bacteriolytic power of the blood of animals, its use in cases of infection in the human should be with great caution until wider experience has proven its safety or danger.

23. **The Development of Children in Colorado.**—Gardiner and Hoagland have tested the lung capacity and respiratory movements of children at Colorado Springs as compared with those of Chicago, St. Louis and other Eastern cities; also the growth at various ages, chest measurements, average weight, etc. They find that there is a climatic factor in Colorado that favors the development. Native-born Colorado children are taller and weigh more, as well as have greater respiratory capacity than those of Eastern cities.

Boston Medical and Surgical Journal.

November 19.

27 *Observations on the Effect of Catheter Drainage on the Function of the Kidneys in Interstitial Nephritis and Pyelonephritis. Arthur T. Cabot.
28 *Unclean Milk, Bovine Tuberculosis and the Tuberculin Test—Their Relation to the Public Health. (To be continued.) E. R. Larned.

27. **Catheter Drainage in Pyelonephritis.**—Cabot has treated a certain proportion of his cases of kidney disorder connected with prostatic obstruction by the installment of permanent catheter drainage, the urine being removed as rapidly as it flows in. The relief of pressure, he thinks, extends even through the uriniferous tubules into the malpighian bodies. He puts a soft catheter into the bladder and arranges it so that it draws the urine steadily without irritating the vesical walls. It should be watched so closely as to insure that it shall never stop running for more than a few minutes at a time. This is no new method for bladder trouble, but he has not seen it mentioned for kidney troubles. The only explanation for the good effects on the kidneys that he has observed is that the ureters gradually contract somewhat when internal pressure is relieved, and the bladder being no longer stretched, its muscular coat recovers its tone and restores the valvular condition at the ureteric orifice. He gives water freely at the same time, and has noticed a decided increase in the quantity of urine passed. His conclusions are that the relief of tension in kidneys which, owing to long obstruction, are exhibiting the clinical phenomena of interstitial nephritis, usually brings about a return of normal function, thus indicating that the renal condition is directly due to the obstruction and increased tension. It seems probable that with dilated ureters, permitting regurgitation of urine into the kidney pelves, long drainage of the bladder will permit such a shrinkage of the ureters and ureteral orifices as to restore the normal valvular action of the ureters, and the retro-flow of urine will thus be stopped.

28. **Milk.**—Larned advocates all the precautions to insure pure milk, free from infections, the use of the tuberculin test to eradicate tuberculosis in herds, and careful milk inspection in cities. He has made cultural experiments in the city of Joliet and finds no samples entirely satisfactory. He notices the improvement in the milk supply of Chicago owing to the efforts of the department of health of that city.

Cincinnati Lancet-Clinic.

November 21.

29 The Lateral Pelvic Segment of the Ureter (The Parietal Fixed or Descending Segment). Byron Robinson.
30 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

American Journal of Insanity, Baltimore.

October.

31 Extracts from the Writings of Wilhelm Griesinger. A Prophet of the Newer Psychiatry. (Concluded.) Translated by Frank R. Smith.
32 Hydrocephalus Internus in the Adult. Henry J. Berkley.
33 *The Pathology of Acute Delirium. H. A. Tomlinson.
34 *Recognition of the Insane in Penal Institutions a Factor in Diminishing Crime. Frank W. Robertson.
35 *The Fluctuation of Insanity in Connecticut as Shown by a Study of Cases Admitted to the Connecticut Hospital for the Insane. Rollin H. Burr.
36 *The Study of Non-dementing Psychoses by Laboratory Methods with Remarks on the Localization of the Disorder. Charles L. Dana.
37 Status Epilepticus: A Clinical and Pathologic Study in Epilepsy. L. Pierce Clark and Thomas P. Prout.
38 The Object to be Attained by an Organization of Assistant Physicians. A. P. Ohlmacher.
39 Report of Observations Made in the Clinic of Dr. J. Babinski, Paris. With Special Reference to Some New Aids in the Diagnosis and Treatment of Nervous and Mental Disease. Charles Gilbert Chaddock.

33. **Acute Delirium.**—Tomlinson describes cases and discusses the pathology of the condition. He holds in substance that it is due to an exhaustion, only differing in degree and the fact that it is based on intoxication from the normal fatigue conditions. The disintegration in either case, he says, is the result of an excess of activity of the cell.

34. **The Insane in Penal Institutions.**—Robertson thinks that the earlier recognition of the insane in penal institutions would prevent the turning out on the public of a class of degenerates that are a peril to society. He asks how the recognition of the insane in penitentiaries can be thus made a factor in the diminution of crime, and answers it: (1) By the establishment in every state of separate institutions for the insane and defective who exhibit criminal tendencies, where they can be held in custody until a competent medical tribunal shall determine that they are fit to return to society. (2) By examination by competent alienists, prior to sentence by court, of those accussed of crime, the report of the physician to be laid before the court to assist in reaching a proper determination of the case. (3) The appointment on staffs of all penal institutions of competent alienists, whose duty it shall be to recognize and secure the transfer to hospitals of those so markedly defective as to require such treatment. If it is not practicable to appoint an alienist for each institution he suggests that one be appointed in each state whose duty it shall be to visit and inspect the inmates of the penal institutions. The warden or officer in charge of such institutions should keep a careful record of each prisoner known to show any mental peculiarities, and furnish information to the alienist on each visit. We should not attempt in our social organization to make the punishment fit the crime, but should study each prisoner to seek out those who should be treated as defectives apart from those who should be treated according to the old lines in state penitentiaries, or those believed to be susceptible of improvement by means of the more modern treatment afforded by the reformatory.

35. **Insanity in Connecticut.**—The summary of Burr's article is given as follows:

A study of the histories of 7,657 cases of insanity covering a period of thirty two years may be summarized briefly in the following general observations: 1. The ratio of the insane to the general population is much larger than most statisticians have estimated it to be, but the increase in the proportion of the insane is very much smaller than has been determined heretofore. 2. The foreign element of our community shows much the larger proportion of insane than does the native. The native insane, however, have increased to a considerable extent, but not in the same proportion as the foreign insane. 3. The cities show a much larger percentage of insane than do the counties, but the counties show an increasing proportion of insane in the later years. 4. We have also seen that the large proportion coming from the cities is due to the larger percentage of the foreign element in the city, also that with increase of the foreign element in the country there is an increase in the insane. 5. The Irish show the largest percentage of the insane. The Germans are next in proportion. The native Americans show the least insane to population. In general the middle period (1880-1890) shows the largest proportion of the foreign insane. 6. In proportion to population the Irish lead all other nationalities in the production of insanity. 7. The cities, as a whole, send much larger numbers of foreign insane in proportion to the population than the counties. 8. As compared with the whole state, Hartford and New Haven have larger proportions of foreign insane than the cities, as a whole, over the counties of the state. 9. Fairfield, Litchfield and Windham counties show the lowest proportion of native insane.

36. **Non-Dementing Psychoses.**—Dana's article is explained in its title. The patient was one in whom an absolute arrest was observed in the course of a distinctly degenerating insanity, and he considers the report as of value on account of the psychic methods and examinations made at three different periods of time. He thinks they can be applied in other cases where a positive prognosis is desirable. The account is interesting, and it would appear that there had been absolutely no change in the man's condition between the last examination and that of three years previously.

Annals of Gynecology and Pediatrics, Boston.

November.

40 *The Pathology and Surgical Treatment of Bright's Disease. S. C. Gordon.
41 Some Personal Experiences in Abdominal Surgery. Arthur C. Heffinger.
42 Two Unique Malformations of the Female Generative Organs; Absent Vagina with Atresia Uteri: Uterus Didelphis with Left Hematometra. Emery Marvel.
43 Hypophosphites of Calcium, Sodium and Potassium in the Prevention and Treatment of Abscess. Sinclair Tousey.

40. **Bright's Disease.**—Gordon has studied the surgical treatment of Bright's disease, and concludes that it is primarily an acute inflammation of the kidney structure, not dependent on any specific infective germ. If early recognized and properly treated it will terminate by resolution. But if neglected or not recognized, repeated acute attacks may occur, each one leaving products of the inflammatory process, which may organize or even suppurate. The acute attacks are always short, but leave more or less products which interfere with the circulation, finally producing a chronic passive congestion. The result of these attacks is an enlargement of the organs, causing pressure of the fibrous capsule. Complete decapsulation relieves this pressure, depletes the distended vessels by more or less bleeding, and allows the circulation to resume its normal conditions and absorb the exudate. Even when one kidney alone is involved, operation on that kidney may relieve the symptoms. The surgeon is justified in operating in advanced cases when the suffering is great, simply to relieve this.

Proceedings of the Philadelphia County Medical Society, Philadelphia.

October 31.

44 *Six Years' Experience with Tuberculosis in the West. Earl S. Bullock.
45 The Necessity for an Early Diagnosis in the Prevention of Deformities. Reginald H. Sayre.
46 A Case of Stammering Treated by Hypnotism. G. Hudson Makuen.

44. **Tuberculosis in the West.**—Bullock gives his experience as a health seeker, and as a physician in New Mexico and adjoining regions. He thinks the accommodations in most places are comparatively poor. There are a number of excellent places open to individuals, but they are generally expensive. Everywhere one is impressed with the fact that individuals are doing what they ought not to do for their health. The climate is expected to do everything. One of the first lessons he drew from his experience was that most patients are disappointed for this reason. The majority of patients are past the point when climate could be an aid to them. There are undoubtedly many old chronic cases who live long and useful lives in this western country, and there are a great number of genuine cured cases who illustrate the best results. There are also the climate seekers who go traveling around and vary their residence with every season; he would not send a patient to a place where conditions were only propitious part of the year. He would not send a tuberculous patient to a city in search of health. He criticises the early management of the Government Sanitarium at Fort Bayard, where he served as pathologist for a season. Changes in authorities and so on have been unfavorable to the best management, and a large proportion of the cases are not hopeful at the start. He analyzes the experience there as he observed it, and remarks that while there he was in a position to obtain conclusive evidence that the tuberculin test is not a justifiable procedure in the human being; also that it can not be depended

on as completely demonstrating the presence or absence of a tuberculous process. Of the St. Joseph's Sanatorium at Silver City, N. M., of which he is medical director at the present time, he speaks favorably as regards the climate and facilities. He ends with the conclusion that we are not justified in sending patients with a high grade of mixed infection away from home, certainly not across the continent. It is little short of criminal to send one, even of the most favorable class, into the West either to shift for himself under conditions that may prove inimical to his moral as well as his physical welfare, or to bring poverty on those near him. A climate at which an individual may remain comfortably out of doors all the year through and in which the dryness of the air prevents colds and cures a catarrhal disposition; in which the natural healthfulness prevents intercurrent diseases, and in which the altitude checks a hemorrhagic tendency; this for selected cases with little or no mixed infection is the most favorable environment to be found anywhere in the world.

Detroit Medical Journal.

November.

47 *The Surgical Treatment of Exophthalmic Goiter. Max Ballin.
48 The Essential Nature of Reflex Acts and Instincts. A. W. Ives.
49 Eye Clinic at St. Mary's Hospital, Oct. 22, 1903. Eugene Smith.

47. **Exophthalmic Goiter.**—Ballin holds that exophthalmic goiter is successfully treated by operation in about 75 per cent. of cases, and while the mortality from operations has been high, it is reduced in the hands of a skilled surgeon to about 6.3 per cent. or still lower in cases operated on early. The principal dangers are from the anesthetic, hemorrhage and postoperative thyroidism. They can be avoided by local anesthesia, skilled manipulation and the proper preparation of the patient, as well as early operation. The question whether operations on the thyroid are preferable to sympathectomy can not be decided until we have fuller statistics as to the results of the latter operation.

Annals of Surgery, Philadelphia.

November.

50 *The Surgical Problem in Prostatic Hypertrophy. George Waller Hawley.
51 *On the Treatment of Fracture of the Mandible. Stewart L. McCurdy.
52 Traumatic Aneurism of the Left Subclavian Artery Produced by Fracture of the Clavicle. William Taylor.
53 *Report of a Case of Recurrent Dislocation of the Ulnar Nerve Cured by Operation. Farrar Cobb.
54 *One Thousand Abdominal Closures by a New Method Without a Known Hernia. James Fairchild Baldwin.
55 Splenectomy for Banti's Disease. Charles G. Levison.
56 On the Pathology and Classification of Intussusceptions, with a Résumé of Those Arising from the Appendix Cecl. Efred M. Corner.
57 *The Diagnosis and Treatment of Acute Pancreatitis. George Woolsey.
58 Idiopathic Dilatation of the Colon. R. W. Murray.
59 *A Contribution to the Study of Intestinal Suture, with a New Method of Intestinal Union. J. Shelton Horsley.

50. **Prostatic Hypertrophy.**—From a general review of the subject the following conclusions are reached by Hawley as regards the problem of prostatic hypertrophy: (1) That it is not the prostate but the adjacent urinary tract that demands relief. (2) That the direct cause of interference with micturition is the displacement of the outlet and floor of the bladder due to enlargement of the retro-urethral portion of the prostate. (3) That until the precise cause of this overgrowth is known and successful preventive measures found we can only hope to relieve by correcting the displacement. (4) That until an effectual method sufficiently safe and simple for application before infection and disorganization of the urinary tract has resulted, surgery can not effectually relieve. (5) That the logical mode of correcting vesico-urethral displacement is by reduction is shown by the fact that operative methods improve urination by virtue of their power to reduce more or less this displacement. (6) While some of these methods partially or sometimes completely accomplish reduction with comparative safety and others entirely reduce the displacement, but at considerable risk, none does so with both safety and success. (7) That since the reduction of the vesico-urethral elevation is essentially a mechanical problem, a reduction based on anatomic and mechanical principles would be the safest and simplest. (8) That the method he describes is based on such reasoning and has received satisfactory confirmation by experimental work. Whether it will prove sufficiently safe and effectual in application, clinical results must decide. In his operation above alluded to, the Zuckerkandl bi-ischial perineal incision was made, exposing the bulb of the urethra and the posterior half of the perineum. The support of the latter was released by dividing the recto-urethral muscle just behind its attachment to the bulb. This enlarged the operative field, allowing the rectum to drop backward. The levators were then divided, still more enlarging the operative field and facilitating exposure, and the prostatic sheath opened under the surface of the prostate from the apex to the base. The sheath on each side was separated from the lateral and under surface of the retro-urethral prostate by the finger (as in prostatectomy). In 2 cases the bladder was opened above, but only to confirm the extent of the reduction of the neck. After freeing the sheath, the prostate was dislocated downward, and in each case the reduction of the elevated neck of the bladder was very plain but insufficient. In each case sections were removed from the outer and lower portion of each lateral lobe, resulting in still greater reduction. In one case where enlargement was almost entirely of the middle lobe with marked upward projection of the bladder floor, the latter disappeared entirely. In each case the reduction seemed complete; the retroprostatic pouch was obliterated and good bladder drainage restored except in one subject where the pouch was large and trabeculated. In each case the urethra, bladder and ejaculatory ducts were uninjured, and enough of the prostate remained untouched to perform its functional purposes in all probability. The steps were easily performed, and the operative damage was slight as compared with prostatectomy with its unavoidable injury of the urethra. The resulting wound was superficial and capable of being made surgically clean. He thinks this method which was tried on cadavers is appropriate in early cases of prostatic hypertrophy before the urinary tract has become infected and disorganized, and while it can be carried out as an aseptic operation.

51. **Fracture of the Mandible.**—The method here proposed by McCurdy consists in drilling through the mandible from the external surface of the bone into the sublingual cavity, drilling between the apices of the second and third teeth from the lines of fracture, when possible, so as to guarantee a firm anchorage for the wires. After the drill holes are made they are threaded with a notched drill. The wire is passed through from without into the mouth on one side, and with the thread through the drill hole on the other side it is drawn out. The two ends of the wire are now drawn out firmly, and the loop on the inside of the bone is molded to the surface of the mucous membrane. The free ends are twisted so as to bring the ends of the bones in perfect apposition. Then the wire is turned up along the remaining teeth, so that the sharp end may not irritate the mucous membrane of the lip. When one side tends to drop the drill holes should not be made on the same plane. In some instances it will require but one hole, the teeth being used for anchorage. This is usually the case in fractures near the angle. He allows the wires to remain in position for six weeks or longer if union has not taken place, and they cause no irritation or sloughing. If necrosis of the bone ever occurred it was too slight to be noticed in his cases. Bandages, etc., are not required. The patient soon learns to hold the teeth together. If infection occurs he uses the ice cap. The mouth should be cleansed with some strong antiseptic, as borolyptol, every hour or so. Before adjusting the fragments the field should be thoroughly cleansed with a 50 per cent. alcohol solution. Iron wire is used, as tougher, less irritating and superior in every way to silver wire. The feeding in the cases where no tooth is missing is by passing a curved glass tube back of the back teeth into the mouth; a fountain or other syringe can be used to force liquids into the oral cavity. In many cases the patient can suck the liquid from a glass with ease. The bulk of the paper is made up of accounts of cases thus treated.

53. **Dislocation of the Ulnar Nerve.**—From the case here reported and a summary of other cases, Cobb concludes that operation for this condition has every chance of perfecting a cure. Only the severe cases, few in number and generally traumatic, need ever be operated on. The operation is only for the symptoms, not for the dislocation, and only in those cases where symptoms are severe and disabling. The steps of the operation are simple and necessarily the same in all cases.

54. **Abdominal Closures.**—The new method here described by Baldwin consists in exposing the bellies of both recti muscles so that they can be brought into direct apposition when the sutures are tightened. Through-and-through silkworm gut is then introduced from within out, the needle being so introduced as to catch merely the edge of the peritoneum, and passed well back through the muscle and fascia and out at a suitable distance from the skin margin. The fascia is next brought together by an over-and-over stitch, using a double thread of coarse silk or cotton. This is introduced so as to give a loop about two feet long. To the end of this loop is attached a wire which is sharply bent on itself so as to be readily drawn through the tissues, the loop being merely a guide. The over-and-over stitch is so passed as to take in about a quarter of an inch of the edge of the fascia and includes no other tissue. It is introduced very loosely so that each turn can be caught later with the finger. As it reaches the end of the incision it is passed from within out through fat and skin so as to make its exit an inch or more above the end of the incision. By means of this guide thread the wire is introduced loosely so that it lies in the wound as a helix, the end of the wire appearing through the skin as the last of the thread is withdrawn. The fascia should be carefully cleaned of fat. A handled needle with an eye at the point is then introduced through the skin and fat about an inch from the other end of the incision, and brought out just above the fascia so as to engage the other end of the wire which is then withdrawn. This needle has been previously passed through two pads about an inch square, made of six or eight thicknesses of gauze. Before withdrawing the wire from the needle one of these gauze pads is slipped down over the wire so as to rest next the skin. The other end of the wire is then threaded through the needle and the other gauze pad placed in position, and a perforated shot placed outside of each pad. The incision is then carefully dried if there has been any oozing, and while an assistant draws up the ends of the silkworm gut so as to secure apposition of the peritoneum throughout, the wire helix is drawn straight by traction with forceps on each end, care being taken to see that no kinks are formed. The wire should be drawn back and forth once or twice to be sure that there are no kinks. The perforated shot are now pushed down against the pads and clamped. The fascia is thus held in absolute contact. The silkworm gut is then tied as usual, care being taken that it is not drawn too tight, as this is the commonest cause of stitch abscess. If the abdominal wall is enormously thickened from a deposit of fat this method can not be used, since the pressure of the silkworm gut would be too great. In such a case he usually closes the peritoneum, including the transverse fascia, with fine catgut, and the muscle and fascia in two layers with chromicized catgut, No. 1, and then the skin and fat with through-and-through silkworm gut. Gloves are always used in closing an incision in this way. To drain the dead space between the fascia and fat he uses a wick of iodoform gauze, wrapped in gutta-percha tissue, extending from the upper end of the wound through its entire length and brought out at the lower end, introducing it before the silkworm-gut stitches are tightened. Any oozing will be absorbed by this drain which is withdrawn next morning. Where the recti are widely separated, he does not try to bring them together, but takes extra care to bring the fascia together. The line of incision is supported by a many-tailed snug binder of canton flannel. If the case does well the dressings are not removed until the tenth day. Of course, the bandage can be removed at any time. The dressing is then removed and all the sutures withdrawn. The wire is easily withdrawn. A bandage is reapplied and the patient directed to wear it day and night for a month except when bathing, wearing it during the day for a second month. It is not necessary to keep it up longer than the total of three months from the operation.

57. **Pancreatitis.**—Woolsey concludes his paper as follows:

1. In the severe acute cases of pancreatitis, the symptom complex, in connection with some predisposing factor or factors and perhaps some other early signs, renders it possible to make a probable diagnosis. 2. The diagnosis is easier than in the less acute cases. 3. It is only likely to be mistaken for conditions which also require early operation. 4. The finding of fat necrosis at the operation confirms the diagnosis. 5. The treatment should consist of early operation, including infusion for collapse, evacuation and drainage. This may be done under local anesthesia. 6. Extensive or prolonged operations are not justifiable.

59. **Intestinal Suture.**—Horsley's method of intestinal suture here described requires the illustrations to fully explain it. It consists in using a suture that passes through the whole of the intestinal walls, sewing together with a continuous overhand stitch a crescentic area excised, then changing the stitch to a Cushing right-angled continuous suture, penetrating all the coats, and inverting the remaining margins of the wound. When the first knot is reached in the suture it is invaginated and the suture continued by two or more insertions of the needle. With these last two insertions of the needle as secure a hold as possible is obtained without penetrating the mucosa. The very last insertion of the needle is in the inverse direction of the other insertions, so that when the knot is tied it is partially buried. After this suturing is completed scarcely any of the thread can be seen, except a portion of the knot, unless the bowel ends are pulled on. The bowel is then turned to its natural position and the mesentery sewed up with a continuous stitch. He claims that his method is efficient, as shown by experiments on dogs. It requires no complicated apparatus or special mechanical device. It can be quickly performed, is easy to learn and hard to forget.

Bulletin of the Johns Hopkins Hospital, Baltimore.

November.

60 An Epitome of the History of Carcinoma. Roswell Park.
61 Governor John Winthrop, Jr., of Connecticut as a Physician. Walter R. Steiner.
62 Pneumococcic Arthritis: Report of Three Cases. Campbell P. Howard.
63 *The Plague in India. A Study of the Results of the Haffkine Prophylactic. B. Rosalie Slaughter.

63. **Plague in India.**—The subjects covered by Slaughter in her paper are the special protective action of the Haffkine prophylactic, which is usually given in India in doses of 5 c.c. or even more. She thinks that the larger dose given there is perhaps the reason for its better success than that of the same material put up at the Hygienic Laboratory at Washington, the dose of which is given as 1 c.c. It has been found that it begins its protective action within twenty-four hours. It is not harmful, even in the incubation stage, and we can set aside Calmette's warning against using it in this stage and inoculate all persons whether they have been exposed to plague or not. The plague serum is harmless, from Indian experience, to those incubating the disease. When a person, however, already has severe headache, tenderness in the glandular region, a temperature of 100 F. or over, its usefulness as a prophylactic is past, because plague has already developed. The reasons for the incomplete success of the English efforts to terminate plague in India are mainly because of the comparatively small area out of an immense population that can be treated, and the fact that villagers neglect the hygienic precautions as soon as their fright is over. The constant pilgrimages and changes of residence, moreover, are decidedly against the extirpation of the scourge. The greater activity and virulence of plague germs at a low, moist temperature has been clearly demonstrated in the Indian experience, and it is a fact worth noting that crocodiles and vultures who feed on plague victims are absolutely immune. The struggle against plague in India is carried on under conditions that we will never be obliged to face in America, but in India the efforts of physicians and their assistants have been successful whenever they have been able to handle small bodies of the people systematically, unhampered by native prejudice. A

number of interesting illustrations of the protective effect of the Haffkine inoculation are reported, showing that it renders a person immune for three months and acts within twenty-four hours of its administration. When given in the incubation stage it has in many cases aborted the disease, but has no effect on other diseases except possibly eczema, which appears to be benefited by it. It confers a high degree of immunity and greatly reduces the number of plague attacks. If in spite of it a person is attacked his chances of recovery are greatly increased.

Brooklyn Medical Journal.

November.

64 The Twentieth Century Practice of Medicine. John R. Stivers.
65 *Fistula in Ano. Walter C. Wood.
66 *Head Injuries: Their Diagnosis. Alexander Rae.
67 *The Treatment of Hemorrhoids in Injections. Arthur H. Terry.
68 A Case of Multiple Lipoma. C. F. Barber.

65. **Fistula in Ano.**—Certain common errors in regard to this disorder are noticed by Wood, such as failure to appreciate the exact pathology of the individual case, the origin of the abscesses, the superficial or the deep nature of the disorder, etc. Tegumentary abscesses are comparatively unimportant, but the subtegumentary inflammations cause a special type of fistula. They are generally lymphatic infections and open externally or just above the mucocutaneous junction and not into the rectum proper. They seldom follow a straight line and are not easily followed with the ordinary probe. He takes exception to the statement of Mathews that it is of slight importance to determine the internal opening of these and other fistulas. Wood remarks that when he finds the internal opening he cures the fistula, and when he does not he sometimes fails. A remnant of the diseased tract continues the infection. In some tubercular cases office treatment may be successful, using cocain and peroxid of hydrogen and following the tract up to its termination, but if the operation is done under anesthesia a much more certain and rapid cure can be obtained by dissecting out the fistula than by incising it. He emphasizes the value of Salmon's back-cut. It is on the same theory that we incise the edge of a chronic ulcer to permit healthy granulations to arise through the indurated tissue. While he favors excision instead of incision in subtegumentary fistulas, in deep cases he thinks the old method of incision is preferable. Such a fistula is more branched than the superficial, and to excise all the ramifications would be a formidable procedure. In doing an ordinary operation, unless it is very evident that the tract is straight, it is better to cut from above downward, making sure that the exact and entire course of the fistula is laid open, rather than by the quicker method of the older authorities. Incontinence following operation is an important matter. If both sphincters are cut once across at right angles, it is safe, but the exact direction of these fibers must be considered for the anal sphincters are not circular but elliptical. It is therefore sometimes necessary to make an incision from the external opening parallel to the fibers until such a point is reached that a line from it to the internal opening will cross the sphincter fibers at a right angle. When required, there is safety in cutting the external sphincter more than once, provided the internal one does not share in the double injury. The after-treatment is important. If we leave the care of the case to one who will use only superficial applications we may expect a large percentage of failures. At least twice a week the bottom of the wound must be examined in a good light, pockets be broken up and exuberant granulations cut down with iodin, chlorid of zinc, etc. He thinks after the first week these cases do better with fresh air and moderate exercise than if confined to the bed. As regards tuberculosis and fistula he is more hopeful than many. There is the possibility of fistula with phthisis as well as tubercular fistula. Phthisis is a less frequent accompaniment than is often supposed. Less than 10 per cent. of the 139 cases of fistula at the Mount Sinai Hospital in four years had phthisis. In cases of true tubercular fistula he thinks general surgery holds rather than any special rule. If the patient's general condition warrants operation he would not hesitate to operate any more than he would with hemorrhoids, and he considers local anesthesia best. Any fistula that can be excised without too formidable a procedure had best be so treated. If incision seems best it is wise to do it with a cautery instead of with a knife, and thus destroy the organisms and avoid infection.

66. **Head Injuries.**—Rae insists that the presence or absence of infection determines the outcome in these cases. The soft parts can be readily examined. In injury to the bones of the cranium, change of contour can be determined, but the possibility of fracture of either or both tables without change of contour must be borne in mind. Closed injuries may have to be converted into open ones to determine the exact condition, and the escape of cerebral tissue and cerebrospinal fluid means fracture of the base. Hemorrhage from the ear or nose should be interpreted with care, although the probability of fracture is great. The symptoms of injury to the brain are the diffuse lesions of concussion and compression; the former marked by a brief period of unconsciousness, the latter by a recurrent or continuous period of insensibility. The appearance of localized loss of function or symptoms of irritation means a local lesion and points to the seat of it according to our ideas of localization. If depressed bone causing pressure be the cause of the loss of function, the function will be restored on elevating the bone. If this does not restore it, the fact of contusion to the brain is emphasized. Considerable damage to the brain tissue, however, can exist without any local symptoms.

67. **Hemorrhoids.**—Terry has used injections in some of his cases with success. He advises the following prescription for the injections, quoting from an unnamed medical journal: "Rub together 1 dram of salicylic acid and 1.5 drams of glycerin, add 2 drams of carbolic acid. To this add I dram of borax and 1.5 drams of glycerin. Let stand until clear, and inject 3 to 5 drops into small piles and 5 to 8 into large ones." This injection should be repeated every ten days, and he has used it exclusively in appropriate cases. He remarks on the harshness of treatment of hemorrhoids sometimes by the introduction of the speculum, etc., and the advantages that quacks gain by their easier methods. Four cases are reported. He does not know that there is any special advantage in the prescription he has employed, though it has been satisfactory to him. He has never used more than 2 minims at any one point, but often injects several points at one visit. He has never seen any sloughing, and only rarely any painful inflammation. He thinks the injection method has a certain utility for patients who will not submit to the knife. The chief danger lies in attempts to make the injections compete with operative surgery in range of application and in promptness of results.

Atlanta Journal-Record of Medicine.

November.

69 A Plea for the Microscopic Examination of the Blood in the Continued and Remittent Fevers Common to Our Southern States. Louis M. Warfield.
70 *Some Remarks on Diagnosis and Treatment of Venereal Ulcers. W. B. Emery.
71 *Report of 150 Cases Receiving the Pasteur Treatment at the Georgia Pasteur Institute. James N. Brawner.

70. **Venereal Ulcers.**—Emery describes the method of diagnosis of chancre, chancroid, abrasions, etc., and his methods of treatment. Simple ulcers require only protection and cleanliness. In herpes and ulcerated balanitis he insists on circumcision, thus removing the cause in most cases. For chancroids he employs carbolic and nitric acid. Swab the surface of the ulcer with pure carbolic acid for the anesthetic effect; then apply nitric acid with a cotton swab. A 40 per cent. formalin solution has been suggested, but he has never tried it. After thoroughly applying the nitric acid he uses a moist dressing of absorbent cotton saturated with bichlorid, 1 to 10,000. This serves to protect the ulcer and absorbs the secretion. Powders are mechanical irritants. He only uses them when the ulcer is very large, irritable and painful. Then he uses the formula of orthoform one part and bismuth subnitrate three parts; this secures almost perfect local anesthesia for twenty-four hours. He has discarded all ointments, except mercurial, and this only in certain cases to stimulate resolution and check phagedena. In many of these cases potassium iodid or

proto-iodid of mercury are useful. For chancre he would use nothing but a 1 to 5,000 bichlorid bath and a moist protective dressing. As regards the diagnosis of chancre he favors waiting until secondary symptoms appear, giving a placebo if necessary and postponing specific treatment until the diagnosis is certain.

71. **The Pasteur Treatment.**—Of the 150 cases treated there has been only one failure, that of an old man, who was bitten severely in the eye, through the nose. Another patient, a small negro boy, developed the disease on the tenth day after commencing treatment and died five days after the symptoms first developed, before immunity could have been established, and the case can not be regarded as a failure. Two patients came after the symptoms had fully developed, and, of course, succumbed. During the last year Brawner treated 36 cases from Georgia; none of them developed hydrophobia. During the same period about 20 were bitten who did not take the treatment, and 4 deaths have already occurred among them. Out of 250 southern cases of mad-dog bite of which he has the record, 170 were treated by the Pasteur method with only one death—that above reported. Of the remaining 80, 16 have succumbed to rabies, or about 20 per cent.

Medical Age, Detroit.

November 10.

72 The Modern Treatment of Epilepsy. William F. Waugh.
73 The Significance of Eye Symptoms to the General Practitioner. E. H. Porter.

American Practitioner and News, Louisville, Ky.

September 15.

75 Management of the Third Stage of Labor and the Proper Care of the Mother and Baby for the Next Few Succeeding days. Hugh D. Rodman.
76 Surgical Aspects of Typhoid Fever. A. D. Willmoth.
77 Medicine and Surgery in the Philippines. Walter D. Webb.

Virginia Medical Semi-Monthly, Richmond.

November 13.

78 The Therapeutic Uses of the X-rays with Report of Cases. Ennion G. Williams.
79 Secondary Enlargement of the Prostate. William L. Peple.
80 The Accurate Estimation of Pulse Tension. Henry W. Cook.
81 Rheumatism in Children. J. P. Williams.
82 Case of Fracture of the Skull in an Infant Four Months Old; Operation; Recovery. Israel Brown.
82½ Sloughing and Discharge by Bowel of 32 Inches of Colon. J. M. Shackelford.
83 Case of Morphoea. A. F. Finch.

California State Journal of Medicine, San Francisco.

November.

84 Tuberculous Infection of the Peritoneum and Adnexa. Andrew S. Lobingier.
85 The Correction of Refractive Errors. W. S. Fowler.
86 Nature and Treatment of Obesity or Corpulence of the Middle-aged. A. W. Perry.
87 The Common Rat; with Some Suggestions as to the Best Methods for Its Destruction. Donald H. Currie.
88 The Practical Value of the State Medical Law. W. W. Cross.

Illinois Medical Journal, Springfield.

November.

89 Anemia Infantum Pseudoleukemica. Maximilian Herzog.
90 Tuberculosis of the Vestibule of the External Genitals in Women. J. H. Stealy.
91 Treatment and Cause of Death in Placenta Previa. P. M. Burke.
92 The Secondary Results of Cardiac Disease. John A. Robison.
93 *Cockroaches as Conveyors of Typhoid Infection. Rosa Engelmann.
94 *The Dangers of an Exclusive Milk Diet in Nephritis. Alfred C. Croftan.
95 Breast Versus Bottle in Infant Feeding. Alfred C. Cotton.
96 Hereditary Tendency to Refractive Errors in a Family. Mortimer Frank.
97 Treatment of Typhoid Fever. William F. Waugh.

93.—This article appeared elsewhere. See THE JOURNAL of July 11, p. 133, 44.

94.—Ibid., abstract 43, p. 133.

Chicago Medical Recorder.

November 15.

98 Adiposis Dolorosa—Dercum's Disease. Frank Billings.
99 Nephrotomy, Nephrectomy, Ureterectomy, Double Epididymectomy and Orchidectomy for Tuberculosis. Alex. Hugh Ferguson.
100 Obstetrical Emergencies. C. E. Paddock.
101 Interesting Cases (Congenital Dislocation of Hip, etc.). Rosa Engelmann.
102 The Relations Between Peritoneal Adhesions and the Functionating Uterus. Charles B. Reed.
103 The Student Physician in Vienna. Julius Grinker.
104 Cambridge Springs, Pa.

Occidental Medical Times, San Francisco.

November.

105 The Care of the Eyes During School Life. J. R. Walker.
106 Membranous Dysmenorrhea. H. B. A. Kugeler.
107 A Diphtheria Epidemic. J. L. McClelland.
108 Hyoscin Hydrobromate as a Specific for the Cure of the Morphin and Whisky Habit, with Report of Cases. R. E. Bering.
109 Practical Value of the State Medical Law. W. W. Cross.
110 Uric Acid in Its Relation to Bodily Ailments or Disease. W. E. Lilley.

The Post-Graduate, New York.

November.

111 The Syphilitic Affections of the Heart and Aorta. Leonard Weber.
112 Regeneration and Inflammation. Robert Langerhans.
113 The Management of Exacerbations in the Course of Pulmonary Tuberculosis. John F. Russell.
114 Adeno-carcinoma of the Liver in Childhood. Stephen S. Burt.
115 Notes from the Clinics. Wendell C. Phillips.

Vermont Medical Monthly, Burlington.

August 25.

116 Adiposis Dolorosa (Dercum), with the Report of a Case. H. C. Gordinier.
117 Two Cases of Normal Pregnancy Following Operations for Extrauterine Pregnancy. Francis D. Donoghue.
118 Later Observations on the Treatment of Rheumatism. W. C. Barnes.
119 Cough in Pulmonary Phthisis. J. Leffingwell Hatch.

New England Medical Monthly, Danbury, Conn.

November.

120 Emergency Character of Railway Surgery and the Extent of Local Disorganization Resulting from Injury. Thomas H. Manley.
121 Surgical Infections and Collargolum. Paul Coudray.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

November 14.

1 *The Conditions that Simulate Pernicious Anemia. Thomas Houston.
2 *Note on the Bodies Recently Described by Leishman and Donovan. R. Ross.
3 Filariasis in Man Cured by Removal of the Adult Worms in an Operation for Lymph Scrotum. A. Primrose.
4 *Bubonic Plague ("Kaumpuli") in Central East Africa. Cuthbert Christy.
5 A Note on the Differential Leucocyte Count in Worm Infections. A. E. Boycott.
6 The Etiology of Beri-beri. W. Gilmore Ellis.
7 The Physical Factors in Phototherapy. J. E. Barnard and H. de R. Morgan.
8 A Case of Double Gangrene of Legs Following a Mild Attack of Enteric Fever. A. Dodds.

1. **Pernicious Anemia.**—Houston reports a case of malignant disease in which the blood findings and symptoms were characteristic of pernicious anemia, but a partial autopsy revealed a general malignant disease of the viscera and involvement of the bone marrow. The special points in the case which deserve attention were the condition of the blood and of the bone marrow. The red cells were greatly diminished in number and ran as low as one million per cubic centimeter, showing a marked poikilocytosis, and many of them were of large size (megalocytes). The blood was megaloblastic in type. The red cells showed signs of degeneration. The color index was always high, increasing during observation, and the number of leucocytes was about, or slightly under, the normal. He has been able to find the account of but one similar case. His experience in other cases affords no justification of the attempt that has been made to show that it is impossible to differentiate between the anemias of the pernicious type and grave secondary anemias. He tabulates a large number of cases in which hemoglobin was below 50 per cent. In nearly all it was possible to differentiate between the secondary anemias and the pernicious anemias by the lower color index and generally by the absence of megaloblasts, the one case which he details standing out as an exception. The contention of Stockman, therefore, that pernicious anemia is always the result of repeated small hemorrhages is not supported. Houston notices other conditions which have been described by some as liable to be confused with pernicious anemia, such as changes in the blood in ankylostomiasis, pregnancy, cancer, etc., and points out the differences that exist. The case reported, he thinks, has an

important bearing on the question as to the pathology of progressive pernicious anemia, for by inference we are forced to conclude that the changes found in the bone marrow in cases of progressive pernicious anemia are generally the result of disease directly accounting for the condition of the blood and not secondarily the result of the anemia itself.

2. **Leishman and Donovan's Bodies.**—Leishman and Donovan recently reported finding small oval bodies in the spleen in cases of low fever, chronic dysentery and cachexia, and in July Donovan also found similar ones in chronic malaria. Ross has investigated these forms, studying the type specimens of Donovan, and finds that it is hardly possible to doubt that these are parasites of some kind, probably protozoan, and that we have to do with some novel organism in these findings, and it promises to be a common and important one. The fever charts of Donovan's cases recall the chronic pyrexia with enlarged spleen frequently observed in India, and are not a little suggestive of kala-azar.

4. **Bubonic Plague in Central East Africa.**—The disease known among the natives as kaumpuli which from time to time has decimated the population of Uganda, East Africa, is defined by Christy as bubonic plague, and seems to have been known to the natives for ages, but for the first account of the disease we are indebted to Koch, who, with Zupitza, a German physician, proved it to be genuine bubonic plague. Christy has investigated the matter further, talking with missionaries and others who have observed it, and confirms Koch's original opinion.

The Lancet, London.

November 14.

9 The History of Medicine as Illustrated in English Literature. Norman Moore.
10 *Occupation as a Cause of Lung Disease. Thomas Oliver.
11 *The Operative Treatment of Tuberculous Glands of the Neck. W. Greenwood Sutcliffe.
12 The Successful Treatment of a Few Cases of Lupus. C. Stanser Bowker.
13 On Suppuration of the Bursa Over the Trochanter Major and Its Occasional Imitation of Hip Disease. T. Pridgin Teale.
14 A Group of Cancer Cases. W. Gifford Nash.
15 A Case of Lupus of the Forehead, the Right Arm and the Elbow Treated by Excision. Cecil H. Leaf.
16 A Case of Congenital Heart Lesion. Walter Broadbent.

10. **Occupation Diseases of the Lungs.**—Oliver's lecture reviews these diseases, especially the dust disorders, such as pneumoconiosis (which has been specially observed in French millstone builders and basic slag workers) and ganister-, coal- and gold miners' phthisis. The latter form has been studied in South Africa, and indicates the necessity of hygienic regulations such as have made coal mining in Great Britain a comparatively healthful industry. Metallic trades, such as file cutting and potters' asthma, which seems to be a serious disorder, are also discussed, as well as the dangers from inhalation of gases. In conclusion, Oliver notices the pathology of pneumoconiosis which often leads to fibrosis from which later destructive conditions and secondary infections may arise. It is not always easy to see whether the mischief is due to the direct action of the dust itself or to superadded infection.

11. **Tuberculous Glands.**—The operation for tuberculous glands of the neck is described by Sutcliffe, who insists on the importance of avoiding the internal jugular vein and the spinal accessory nerve. He holds that if operation is decided on, the glands should always be removed with their surrounding cellular tissue, and that instead of tying the internal jugular as a routine measure it should be avoided. The drooping of the shoulders caused by division of the spinal accessory nerve is a serious deformity and causes considerable loss of power, and in children is the cause of almost certain lateral curvature. He has seen many old cases where the sternomastoid and trapezius have atrophied, which served as an object lesson to him not only to treat the nerve with the greatest respect, but to put the incision in the least visible region.

Journal of Tropical Medicine, London.

November 2.

17 Note on "Mansonia" Anopheloides. G. M. Giles.
18 *A Rare Cerebral Complication in Malaria. P. A. Nightingale.
19 Municipal Sewerage. (Continued.) Fred Smith.

18. **Malaria Embolism.**—Though malarial embolisms are not uncommon during the paroxysm of fever, they usually prove fatal, as Nightingale says, from their lodging in some capillaries of the more important cerebral nerve centers. In the case he reports, however, there was simply paralysis of the velum, with some paresis of the vocal cords, followed by slow recovery, as the result of this accident. The patient was an army officer, 32 years of age, who was on the way home from Sierra Leone, the embolism occurring after some days at sea. He thinks, considering the favorable conditions surrounding the patient, that the occurrence indicated a special susceptibility on his part to cerebral embolism; therefore, the question of the safety of a return to a malarial climate for at least some time ought to be seriously considered.

Bulletin de l'Académie de Médecine, Paris.

20 (LXVII, No. 34.) *Potable Water for Garrisons. Committee Report.—Sur l'alimentation des garnisons en eau potable.
21 *Gastrotomie pour l'extraction de 25 corps étrangers, dont 8 cuillères à café et 1 fourchette. Guérison. Monnier.
22 *De la dégenerescence maligne du moignon cervical après l'hysterectomie subtotale pour fibrome. L. G. Richelot.
23 *De l'ulcère externe de l'estomac. G. Hayem.

20. **Potable Water for Garrisons.**—The committee emphasize the necessity for the protection of the sources of the water supply. When this can be done efficiently it is unnecessary to resort to sterilization of the drinking water, except possibly temporarily in case of accident.

21. **Gastrotomy for 25 Foreign Bodies in Stomach.**—Eight teaspoons were included among the foreign bodies taken from the stomach of a would-be suicide. Recovery was rapid. Monod, in describing the case, stated that it was the seventy-eighth on record of gastrotomy for a foreign body. In 17 the latter had been multiple. The tolerance of the stomach has always been extraordinary. In 2 cases the foreign body had perforated into the peritoneal cavity without inducing inflammation. The interval before operation was from a few hours to six months in more than half of the cases, and from one to sixteen years in the remainder, with only 2 deaths in this series, a total mortality of 9. Hair balls were found in 9 of the cases. In the case described in detail radioscopy had been negative, and although some of the foreign bodies had been in the stomach for nearly six months, there were no gastric symptoms. The existence of multiple intestinal symptoms and crepitation in the left hypochondrium led to the erroneous diagnosis that the assumed foreign body had passed into the intestines and the operation was commenced at this point.

22. **Malignant Degeneration of Stump of Cervix.**—Richelot has observed 3 instances in which the stump of the cervix left after subtotal hysterectomy had become affected with malignant disease. He knows of 3 other cases, and has found 10 more in the literature. The hysterectomy had been undertaken on account of fibroma in the majority of cases. Hyperplasia of the uterine glands shows a tendency to epithelial malignant proliferation, and this hyperplasia of the glands is an invariable accompaniment of uterine fibromata. He therefore urges total instead of subtotal hysterectomy, whenever possible, and proclaims that fibromatous degeneration should no longer be regarded as a benign process. He admits that a fibroma is a benign tumor, but it is the manifestation of a nutritional disturbance affecting the parenchyma of the uterus and likewise its mucosa, the latter preparing the soil for malignant degeneration later. Besides this, there is always the possibility of phlebitis and complications on the part of the viscera. The general hypertrophy which accompanies fibromatosis is liable to degenerate into epithelioma, either of the fundus or of the stump left after a partial operation.

23. **External Ulcer of the Stomach.**—Hayem describes a lesion on the outer surface of the stomach which he thinks has hitherto escaped attention. It resembles a round ulcer, only that it faces outward and leaves the mucosa of the stomach intact. It may be called an external ulcer, gastric mal perforans or a mixed internal aneurism. In its course it passes through three phases, first resembling a vaccine pustule, then a kind of sac, and finally, a cupola projecting around a defect in

volving all the layers of the stomach wall down to the mucosa. He has observed it in 8 cases, and always coexisting with chronic ulcers on the inner surface of the organ. This coincidence seems to demonstrate that it is due to the same causal pathologic process, and that abnormal gastric juice can not be the principal factor in the evolution of an ulcer in the stomach wall. The facts observed incriminate nervous influences as more probably responsible for the lesions than any cause inside the organ.

Presse Médicale, Paris.

24 (II, No. 88.) Au congrès national contre l'alcoolisme. 26-29 Octobre, 1903. Le rôle du médecin. H. Triboulet.
25 Les conditions habituelles de l'intoxication belladonnée. A. Martinet.

Archiv f. path. Anatomie, etc. (Virchow's), Berlin.

Last indexed page 938.

26 (CLXXIII, No. 3.) Zur Lehre von den Oesophagus-Divertikeln, mit bes. Berücksichtigung ihrer Anatomie und ihrer Pathogenese. G. Riebold (Dresden).
27 Changes in Spinal Ganglion Cells After Division of Peripheral Nerves and Posterior Roots. K. Kleist.—Die Veränderungen der Spinalganglienzellen nach der Durchschneidung des periph. Nerven und der hinteren Wurzel.
28 Die morphologischen und tinktoriellen Veränderungen nekrobiotischer Blut-Zellen. K. Bodon.
29 Lienale Leukämie bei einem 5 Wochen alten Kalbe (in calf). D. A. de Jong.
30 *Behavior of Suprarenals in Inherited Syphilis. N. Guleke (Berlin).—Zur Frage des Verhaltens der Nebennieren bei congenitaler Syphilis.
31 Zur Kenntnis des Myeloms. S. Saltykow (Basle).
32 Struma ovarii colloides. R. Meyer.
33 Case of Rupture of Gall Bladder. B. Huguenin (Geneva).—Fall von Gallenblasenruptur mit tödlicher Blutung infolge eines Carcinoma hematodes an der Vereinigungsstelle der 3 Hauptgallengänge, nebst Bemerkungen über einige gleichzeitige Leber- und Pankreas-Veränderungen.
34 Fall von Agenesie der Milz (of spleen). C. Sternberg.
35 History of Recurrence of Smallpox. W. Ebstein.—Zur Geschichte der Rezidive bei den Pocken.

30. **Suprarenals in Inherited Syphilis.**—Guleke has noticed in 3 out of 8 cadavers of newly born syphilitic infants that the suprarenals exhibited peculiar wedge-shaped or oval foci of necrosis. He found nothing of the kind in 15 non-syphilitic infant cadavers. He relates the particulars of one case. The infant of a prostitute had succumbed two days after birth, and the necropsy showed gummatous hepatitis, interstitial splenitis and intense osteochondritis. In the cortical substance of the suprarenals miliary gummata were numerous, accompanied by interstitial fibrous induration and the necrotic foci mentioned above.

Beiträge z. Geb. und Gynäkologie (Hegar's), Leipsic.

Last indexed page 584.

36 (VII, No. 3.) *Indications for Forceps Operations. H. Fehling (Strasburg).—Ueber die Anzeigen für die Zangenoperation.
37 Case of Cleft Pelvis. M. Muret.—Fall von Spaltbecken.
38 *Abnormal Site of Afterbirth. H. Bayer (Strasburg).—Ueber fehlerhaften Sitz der Nachgeburt und die Analogien zwischen Placenta previa und Tubenecken-Placenta.
39 *Recovery from Tuberculous Peritonitis. H. W. Freund.—Zur Heilung der tuberkulösen Bauchfellentzündung.
40 *Studien zur Bakteriologie des Genital-Kanales in der Schwangerschaft und im Wochenbette. M. Stolz.
41 *Zur Diagnose und Therapie der Genital- und Peritoneal-Tuberkulose des Weibes. H. Pape (Giessen).
42 Stiel-Torsion bei Hydrosalpinx. A. Funke (Strasburg).
43 Historical Sketch of the Lying-in Rooms in Previous Centuries. R. Müllerheim.—Zur Kulturgeschichte der Wochenstuben vergangener Jahrhunderte.

36. **Indications for Forceps Operation.**—Fehling thinks that injury of the soft parts would not occur if students were trained in forceps operations and repair of injuries by careful suture under the eye of the professor. He adds that no "practicant" is allowed to leave his clinic without having sutured a perineum once or several times. He thinks that there is nothing to prove that the application of forceps leads to hemorrhage from atony. Hemorrhage from lacerations can be easily controlled. Slight lacerations of the cervix occur in nearly every normal birth, and Emmet's operation is usually superfluous. He states that in 815 forceps operations he has held the forceps himself in only 10, and thinks that by thus entrusting them to the assistants he has done more for the education of his pupils than if he had denounced and banished forceps from his practice. He regards feeble contractions as an indication for their use and advocates resorting to them when all the conditions are favorable and the delivery stage lasts more than three hours.

38. **Abnormal Site of the After-birth.**—Bayer calls attention anew to the fact that the cervix does not behave the same in all pregnancies. In some it develops by unfolding irregularly, and the physiologic stricture becomes spastic in labor accompanied by spasmodic contractions. The after-birth in placenta previa is inserted in the lower pole of the uterus but not in a correctly regular segment, and hence it develops abnormally. A woman who has had considerable hemorrhage during the pregnancy but who arrives at term without much loss of strength stands a better chance of recovery with a living child, from the placenta previa, than one whose labor commences at term without any hemorrhage during the pregnancy. The same conditions prevail when the placenta is located in the tubal angle. The uterus forms a "tubal segment," as the walls of the tube expand under the placenta. In case of placenta previa it becomes more or less detached and hemorrhages occur, simulating the phenomena of premature detachment of a normally located placenta. The various conditions are shown in cuts. With a placenta located in the tubal angle the uterus becomes saddle-shaped. No special treatment is required for it, except that the possibility of a pathologic process must be borne in mind.

39. **Healing of Tuberculous Peritonitis.**—Freund describes several cases to show the phases of the healing process in case of tuberculous serous or ulcerative, suppurative peritonitis or peritonitis with adhesions. Each of these three varieties is amenable to operative treatment. This relieves the abdomen of the presence of the effusion, with or without its specific disease germs, and the intervention is followed by proliferation of connective tissue which destroys or encapsulates the morbid products. Mild cases may be treated conservatively, but severe ones require surgical aid. Freund describes 15 cases which emphasize the remarkable benefits derived. In some the cure has persisted for years. Concomitant tuberculous lesions in pleura or lungs healed with the healing peritoneum. Experiences of many surgeons to date show that 65 per cent. have been cured by operative intervention, and 25 per cent. permanently for years to date.

40. **Bacteriology of Genital Canal in Pregnancy and Parturition.**—Stolz does not regard the presence of bacteria in the uterus as necessarily entailing infection. He thinks that this follows only when the germs are extremely virulent and very numerous.

41. **Tuberculosis of Female Genitalia and Peritoneum.**—Pape advocates excision of tuberculous lesions in the portio and cervix, but not in isolated tuberculosis in the endometrium until after the ordinary measures have been tried and failed, such as abrasio, injection of iodin and general treatment. In recent cases of general genital tuberculosis radical operations are indicated, but in the chronic cases only symptomatic treatment.

Berliner Klinische Wochenschrift.

Last indexed page 1374.

44 (No. 39.) Modification of Chemical Property by Partial Decomposition of Albumin in the Body. F. Umber.—Ueber Abanderung chemischer Eigenart durch partiellen Eiweissabbau im Körper.
45 *Weitere experimentelle Untersuchungen über Alopecie und die Lokalisation von Hautkrankheiten. A. Buschke.
46 *Value of Soxhlet's Sugar Food in Infant Therapeutics. H. Brüning (Leipsic).—Ueber die Verwertbarkeit des S. Nährzuckers in der Säuglings-Therapie.
47 *Zur Klinik der Tumoren der Hypophysis. H. Rosenhaupt.
48 Sociologic Study of Venereal Diseases. E. Saalfeld—Zur sozialen Fürsorge für Geschlechtskranke.
49 (No. 40.) *Immediate and Permanent Action of Heat and Light Rays on Cutaneous Temperature. F. Sommer.—Ueber die unmittelbare und Dauerwirkung der Licht- und Wärmestrahlung auf die Hauttemperatur.
50 *Experimental Research with Subcutaneous Feeding with Nutrient Solutions of Albumin. Troildenier (Dresden).—Tierversuche über subkutane Ernährung mit eiweisshaltigen Nährlösungen.
51 *Ueber orthotische Albuminurie. O. Jacobson (Berlin).
52 Sun and Air Baths. E. Singer.—Ueber den Einfluss von Luft- und Sonnenbädern auf den menschlichen Körper.
53 (No. 41.) Radioscopy of Bone Sarcomata. Lessing.—Knochensarkome im Röntgenbild.
54 *Ueber Cardioptose und ihren Zusammenhang mit Hepatoptose. M. Einhorn (New York).
55 *Zur Lehre vom Magensaftfluss (gastrosuccorrhea). A. Albu (Berlin).
56 Urtikaria nach endonasalen Anwendung von Nebennieren-Extrakt (suprarenal extract). A. Rosenberg.
57 *Ueber die Komplikation der Angina mit akuter Thyreoiditis. W. Lublinski.

58 *Paralysis of Accessorius in Tabes. W. Seiffer (Berlin).—Die Akzessoriuslähmungen bei Tabes dorsalis. (Commenced in No. 40.)
59 (No. 42.) Versuche über die Theocin-Diurese am gesunden Menschen. H. Dreser.
60 *Displacements of Liver and Thoracic Organs from Meteorism. A. Oppenheim.—Die Lageveränderungen der Leber und Brustorgane bei Meteorismus, ihre Verwertung für Diagnose und Therapie.

45. **Alopecia from the Use of Thallium.**—Buschke's further experiments have established that the alopecia has nothing to do with the decrease in the secretion of sweat which thallium induces. Also that the alopecia is due to a specific medicinal action on the part of the drug, and that this action can not be diverted elsewhere by producing a superficial lesion at another point.

46. **Soxhlet's Sugar Food in Infant Therapeutics.**—Brüning states that his experience with this substance, added to the milk, has been extremely favorable in the case of 37 infants, some of them very sick. Even those with severe gastro-intestinal trouble gained in weight as well as the others on this diet.

47. **Symptomatology of Tumors of Hypophysis.**—At the necropsy of a woman 39 years old a sarcoma of the thyroid gland was found and also one in the hypophysis. The symptoms were great thirst, fever and polyuria, with spasmodic sneezing. Rosenhaupt gives further particulars of the case and reviews the symptomatology of such tumors in detail. The fever paralleling the polyuria suggested a central process, as also a suspicion of choked disc. Death followed in six weeks after the first symptoms.

49. **Influence of Heat and Light Rays on Cutaneous Temperature.** The action of blue, yellow and green incandescent electric light was studied in this research. Under the influence of the light the part gradually becomes warmer. This direct action of the rays is most marked with the short-wave rays. After two to four hours the radiated side is colder than the other, which fact Sommer explains as due to a reactive rise in the temperature on the other side.

50. **Albumin for Subcutaneous Feeding.**—Trolldenier reports experiments on dogs and 2 clinical cases, in which nutrient injections of a 10 per cent. solution of albumin were applied. None of the albumin appeared in the urine, and he consequently assumes that it was assimilated in the organism. The amount that can be thus given is very small, and the points of the injections were liable to suppurate or at least show a painful tumefaction. He used a manufactured product, midway between genuine albumin and albumose.

51. **Orthostatic Albuminuria.**—Jacobson accepts this form of albuminuria as an indication of degeneracy. He applies the term only to those cases in which the albuminuria ceases after a day's rest in bed, and there is no albumin in the night urine. The proportion of albumin is not dependent on the specific gravity. He considers the albuminuria of puberty as its prototype, both a token of exceptional susceptibility to fatigue.

54. **Cardioptosis and Its Connection with Hepatoptosis.**—Einhorn's communication is based on examination of 926 persons. He found in 22 pronounced cardioptosis, all but 4 being men. In about half of these cases there was concomitant hepatoptosis, probably owing to the downward displacement of the diaphragm. Treatment should be addressed to the general nervous system, with avoidance of positions bending the trunk forward, and of high pillows at night. Drugs are of little if any use, but a mechanical support might be tried, a pad in the corset, for instance.

55 **Gastrosuccorrhea.**—Albu regards the presence of gastric juice in the fasting stomach as pathologic in every instance. He distinguishes between chronic and intermittent gastrosuccorrhea, ascribing the latter to incipient tabes in most cases. It usually begins suddenly, with violent pains and vomiting of gastric juice, and the affection then subsides, sometimes for months at a time. Chronic gastrosuccorrhea is usually found in neurasthenic subjects and in cases of atony, ectasia or ulcer, and is always preceded by some motor disturbance. Corresponding to these fundamental affections the secretion may be hyperacid or not, and the dilution of the juice may mask its acidity. The secretion of urine and of gastric juice are usually in inverse relation to each other.

57. **Complication of Angina with Acute Thyroiditis.**—Kublinski's 4 patients were women, and the sudden onset of the thyroiditis convinced him that the angina was due to rheumatism. Instead of localizing in the joints the affection settled in the thyroid gland. The course was febrile, but there was no suppuration and recovery was complete in 2 to 8 weeks. The pulse was accelerated in each case. He found applications of ice the most effectual treatment. In one case recurrence of the angina six months later was accompanied by recurrence of the thyroiditis.

58. **Paralysis of the Accessorius in Tabes.**—Seiffer has encountered 3 cases of this paralysis among 400 tabetic subjects, and has found 6 recorded in the literature. He describes and illustrates his cases, adding that the tabic neuritis is generally a peripheral or root affection, probably at the point where the root fibers of the vagus and accessorius mingle, as the symptoms of paralysis of the latter are accompanied by others indicating involvement of the vagus.

60. **Diagnostic Import of Displacement of the Liver, Etc., by Meteorism.**—Oppenheim states that when the liver is pushed up by meteorism below it turns on its frontal axis upward and backward and the dulness vanishes. The disappearance of dulness may therefore indicate the first phase of pronounced meteorism not otherwise revealed. It may prove an early sign of progressive peritonitis originating from appendicitis, long before the pulse shows anything wrong. Opium may induce meteorism in the large intestine. The above displacement of the liver does not occur when the entire mass of the intestines is distended, and may thus differentiate the part of the intestine affected. Artificially produced experimental distension of the intestines, even of the rectum alone, is liable to arrest the heart-beat by mechanical action. This effect is still more marked in man on account of the unyielding nature of the walls of the thorax. Relief may be obtained from a fistula opening into the small intestine better than from one in the less elastic large intestine. The displacement of the liver also pushes up the lung.

Deutsches Archiv f. klinische Medizin, Berlin.

Last indexed page 1375.

61 (LXXVII, No. 5-6.) *Exophthalmus und Hirndruck (brain pressure). G. Flatau (Quincke's clinic, Kiel).
62 Healing Processes in Nephritis. C. Thorel (Nuremberg).—Pathologisch-anat. Beobachtungen über Heilungsvorgänge bei Nephritis.
63 Metabolism in Chronic Leukemia. J. Schmid (Breslau).—Zum Stoffwechsel bei der chronischen Leukämie.
64 Zur Frage der Ammoniakausscheidung im menschlichen Urin. A. Schittenhelm.
65 *Sputum as Culture Medium for Tubercle Bacilli. W. Hesse (Dresden).—Die Bedeutung des Auswurfs als Nährboden für den Tuberkelbazillus. Ein neuer elektiver Nährboden für die Tuberkelbazillen im Auswurfe. Beitrag zur Erklärung der Ursache für Lungentuberkulose.
66 *Diagnosis by Blood Findings of Marrow Involvement in Malignant Disease. O. Kurpjuweit.—Zur diagnose von Knochenmarksmetastasen bei malignen Tumoren aus dem Blutbefunde. Ueber myeloide Umwandlung der Milz, Leber und Lymphdrüsen.
67 (LXXVIII, No. 1-2.) Ueber Pneumokokken-Lokalisationen. O. Wandel (Basle).
68 *Neue Beobachtungen über Herzjagen (paroxysmal heart galloping). A. Hoffmann (Dusseldorf).
69 *Bedeutung von Infektion, Heredität und Disposition für die Entstehung der Lungen-Tuberkulose. E. Schwarzkopf.
70 Fat Formation in Normal and Pathologic Organs. A. Rosenthal.—Fettbildung in norm. und path. Organen.
71 *Ueber Physiologie und Pathologie der fliegenden Mücken (Muscæ volatiles, Mouches volantes, Myodesopsie). M. Buch (Helsingfors).
72 Klinische Beobachtungen über ventrikuläre Extrasystolen ohne kompensatorische Pause. O. Pan (Prague).
73 *Very Sensitive Test for Biliary Pigment in Urine. A. Jolles (Vienna). Eine sehr empfindliche Probe zum Nachweis von Gallenfarbstoff im Harn.
74 Diverticula and Sound Injuries of Esophagus. B. Fischer (Bonn).—Ueber Sondierungsverletzungen und Divertikel des Esophagus.
75 *Zur Kenntnis der Alkaptonurie. L. Langstein and E. Meyer (Basle).
76 Study of Action of Local Hydrotherapy on Vessels. F. Lommel (Jena).—Ueber den Tonus der grossen Gefässe und über das Verhalten der peripher gelegenen Gefässgebiete bei lokalen Wasserprozeduren.
77 Die Ausnutzung der Pentosen im Hunger. E. Bendix and K. Dreger (Ebstein's clinic, Göttingen).

61. **Exophthalmus and Pressure on Brain.**—In 5 cases personally observed by Flatau, and in 10 reported in the litera-

ture, the cerebral affection accompanied by edema of the lids or decided exophthalmus proved to be a tumor in most cases, in others an abscess, hydrocephalus or chronic serous meningitis. He recommends measuring the eyeballs with the exophthalmometer before and after lumbar puncture. These disturbances are probably due to interference with the circulation in the basal sinuses, especially the cavernosus. The effect is not only mechanical congestion and eventual transudation into the orbital cellular tissue, but the innervation of the orbit also suffers from compression of the sympathetic ganglion. This in turn causes an excessive flow of blood into the retrobulbar tissue. In acute suppurative or inflammatory conditions and in case of a tumor the process is liable to invade the orbit and induce the exophthalmus by direct propagation.

65. **Sputum as Culture Medium for Tubercle Bacilli.**—Hesse has found that scraps of human sputa placed on agar form an elective culture medium for any tubercle bacilli contained therein. The essential requisite for their development is that the alkalinity of the medium must be identical with that of the sputum. This varies with each case. The bacilli in the sputum are almost invariably alive and able to multiply and colonies rapidly develop. He thinks that the facts observed indicate that when the bronchial secretions happen to be of the same degree of alkalinity as the sputa, the lodgment of scraps of sputa in sheltered nooks in the lungs offers unusually favorable conditions for the proliferation of the bacilli *in situ*, which otherwise does not occur. The different degrees of alkalinity of the mucus in man and animals may be the reason why the lesions produced by infection from the other species have so little pathologic importance. He inoculates tiny scraps of fresh sputum on a mixture of 10 gm. agar, 10-25 gm. glycerin and 1,000 gm. distilled water, boiled one-half to one hour and filtered twice, and then poured into tubes in quantities of 25 c.c. in each. One-tenth normal alkaline solution is then added to each tube in varying amounts, ranging from .2, .5 to 1, 2 and 5 c.c. The mixture is then poured out on six plates, and when it has solidified and can be turned upside down the agar is inoculated with a scrap of sputum. The bacilli develop sufficiently for differentiation in one to three days; after one or two weeks the colonies can be differentiated by the naked eye. When this test results positively inoculation of animals is superfluous.

66. **Diagnosis of Marrow Metastases of Malignant Tumors by Blood Findings.**—Kurpjuweit's clinical observation of 6 cases and analysis of 13 that have been published by various writers, have demonstrated that it is possible to diagnose malignant metastasis in the bone marrow even before the discovery of the primary tumor. The diagnosis is based on the finding of large numbers of myelocytes in the blood, accompanying signs of anemia. These changes in the blood are not the result of the cancer cachexia, but are due to the pathologic condition of the bone marrow which becomes transformed into lymphoid marrow in response to the increased demands on it.

68. **Paroxysmal Tachycardia.**—Hoffmann gives the particulars of a later series of 5 cases, 3 of which were under observation for a long time. During the abruptly-commencing and abruptly-ending attacks of tachycardia the heart contractions rose to 140, 200 or even 300 in a minute, and the heart action was somewhat irregular during the intervals. The polyuria observed with the onset of the attack and persisting through it unmistakably indicates nervous influences on the entire heart emanating from the medulla. None of the cases presented any evidence of organic disease. One of his patients had the first attack at 58, and has been in continuously robust health during the fifteen years since. The attacks commenced at the age of 9 in another case. The patient is now a man of 52, and has risen to eminence in his profession. In another, the attacks have always been slight, and of late years the subject has been able to abort them every time by holding his breath or lying down and breathing deep. In a number of cases it has been possible to abort the attacks of "heart galloping," as he calls them, by applying pressure to the vagus. One patient is able to ward off an impending attack by squatting down (Niederhocken). The chief measures for prophylaxis are avoidance of injuries, refraining from smoking and drinking, and overexertion, mental or physical, leading a tranquil life in general.

69.—This was noticed editorially. See page 1348, issue of November 28.

71. **Muscæ Volitantes.**—One of Buch's eyes is normal and the other myopic, 4 D. He has been studying this optic phenomenon of muscæ volitantes on himself, as his astigmatism caused exceptionally favorable conditions for such investigation. He found that the floating particles were most numerous after the eyes had been resting at night, and for this and other reasons which he enumerates he concludes that they are formed anew each day, and probably have some intimate connection with the functional activity of the vitreous body. It is possible that they serve as centers of growth. They are seen more distinctly the more myopic the eye, but are essentially a physiologic phenomenon.

73. **Sensitive Test for Bile Pigment in Urine.**—Jolles has found that by the technic described it is possible to detect even very small proportions of biliary pigment in urine, and the reaction is not affected by the presence of hemoglobin or indican. About 10 c.c. of urine are placed in a test tube and 2 or 3 c.c. of chloroform are added with 1 c.c. of a 10 per cent. solution of barium chlorid. After thorough shaking the mixture is centrifuged and the supernatant fluid above the chloroform is decanted. The tube is then refilled with distilled water and centrifuged again. In deep colored urine it may be necessary to repeat this application of the water. After decanting the fluid above the chloroform and sediment the latter is treated with 5 c.c. alcohol, shaken up well, and then two or three drops of an iodin solution is added and the mixture is filtered into a conical glass. The presence of even the slightest trace of biliary pigment will cause the fluid to assume the characteristic green color, as it stands, and the change in color may be hastened by warming. The solution of iodin for the test is made by dissolving separately in 125 c.c. of alcohol each .63 gm. of iodin and .75 gm. of mercuric chlorid, then mixing the two and adding 200 c.c. of concentrated hydrochloric acid. Jolles recommends this test as exceedingly simple and delicate.

75. **Alkaptonuria.**—Alkapton is the product of some anomaly in the intermediate metabolism, according to the conclusions of Langstein and Meyer. In isolating homogentisinic acid from urine containing alkapton a between body is obtained, the lakton of this acid, which responds to the Millon test.

Deutsche Medicinische Wochenschrift, Berlin and Leipsic.

78 (XXIX, No. 45.) *Physical Diagnostics of Kidney Functioning. H. Koeppe (Giessen).—Physik. Diagnostik der Nierenthätigkeit.

79 *Ueber 100 poliklinisch beobachetete Fälle von Diabetes mellitus: insbes. ihre Beziehung zur Tuberkulose und Arteriosklerose. W. Croner (Senator's clinic, Berlin).

80 *Syphilis and Kidney Surgery. M. v. Margulies (Odessa).—Ueber die Beziehungen der Syphilis zur Nierenchirurgie.

81 Ophthalmia neonatorum und der Gonococcus. F. Schanz.

82 *Changes in Bladder in Case of Uterine Cancer. W. Hirt and R. Sticher (Küstner's clinic, Breslau).—Ueber cystoskopisch nachweisbare Blasenveränderung bei Uteruscarcinom. (Commenced in No. 44.)

83 Apparatus for Making Glycerin Soap Suppositories for Use in the Family as Needed for Constipation in Infants, Adults, etc. H. Steinheil (Kochendorf).—Apparat zum Formen von Stuhlzäpfchen.

84 Die Dispensaires in Belgien und Frankreich. P. Jacob.

78. **Functional Diagnostics of the Kidneys.**—Koeppe's researches and reasoning apparently establish that the osmotic energy influences the concentration of the urine, but is not directly responsible for the excretion of urine, which depends on the hydrostatic pressure. The latter is also responsible to a certain extent for the degree of concentration, as it determines the amount of the urine, that is, of the water in the urine. The molecular concentration of the urine, and thus its osmotic pressure, are dependent on three factors: 1. On the blood pressure, which determines the amount of water in the urine; 2, on the walls of the glomeruli which are theoretically assumed to be permeable on one side only, and when intact allow the excretion of extremely diluted urine. That

is to say, they control the function of producing a very diluted urine, and 3, on the kidney function involved in the production of a concentrated urine. This latter function we at present locate in the epithelium of the kidney and its vacuoles. A single determination of the freezing-point of the urine is not able to enlighten us in regard to the workings of all three of these factors. Repeated investigation is necessary to determine this, and only when certain values remain approximately the same during the most diverse conditions are we justified in drawing practical conclusions from the findings. If the lowering of the freezing point of the urine is never less than that of the freezing point of the blood, even under conditions such as copious ingestion of fluids inducing the production of a diluted urine, then we may safely assume some disturbance in the apparatus in the kidney, which has charge of the production of diluted urine. On the other hand, we may assume some disturbance in the apparatus which has charge of the concentration of the urine when the variation in the freezing point of the urine is never greater, or only very little greater, than that of the blood. This apparatus, as mentioned above, we assume to be the epithelium of the kidney. Two determinations of the freezing point are sufficient for the diagnosis from segregated urine when the difference between the freezing point of the urine from the two kidneys shows that one is functioning less perfectly than the other. The diseased kidney is always the one which excretes a urine in which the variation in the freezing point most closely approximates that of the blood. When the variation in the freezing point of the urine from both kidneys is greater than that of the blood, then the kidney with urine exhibiting the least variation is the abnormal organ. On the other hand, when the variation in the freezing point of the urine from both kidneys is less than that of the blood, then the kidney excreting the urine with the greatest variation of the freezing point is the diseased kidney. This latter condition has not been pointed out before, but it will be encountered during unusually intense diuresis. To insure an accurate diagnosis the urine should be segregated and investigated both during artificially induced diuresis and during conditions in which a somewhat scanty but concentrated urine is usually excreted. This will afford insight into the capacity of the morbid kidney to excrete diluted as well as concentrated urine. In functional tests of both kidneys at once we have likewise to distinguish between the faculties of excreting a diluted or a concentrated urine. After ingestion of 1.8 liters Salvator water the freezing point of healthy urine ranged from .09 to .26 C., while the amount of urine during the three hours after the test ranged from 1,020 to 2,170 c.c. In compensated heart defects these figures were, respectively, .16 to .17 and 1,187 to 1,822. In genuine contracted kidney .12 to .38 and 609 to 1,543 c.c. In chronic parenchymatous nephritis .35 to .53 and 339 to 1112 c.c. In uncompensated heart defects .59 to .77 and 373 to 413 c.c. In subacute parenchymatous nephritis .83 to .87 and 180 to 217 c.c. Uncompensated heart defects and subacute parenchymatous nephritis thus induce somewhat the same changes in kidney functioning, but in the former it is due to the weak heart action, while in the latter it is the result of some defect in the walls of the glomeruli which prevents their delivering diluted urine. [These researches by Kövesi were described in THE JOURNAL, xxxviii, page 1335, title 36, 1902.] Koeppe thinks that perfection of this method—the "dilution test"—will be an important aid in differential diagnosis. He does not know to date of any means by which to test the functioning of the kidney in respect to its capacity of inducing concentration of the urine. We must bear in mind also that the concentration of the urine will differ after long abstention from fluids, and also after ingestion of salt foods and drinks. The concentration of the urine is due to the presence of organic, as well as of anorganic molecules, and the freezing point indicates the values for each. The electric conductibility of the urine is a convenient and valuable method of estimating the anorganic molecules ,and should supplement cryoscopy.

79. **Diabetes in Relation to Tuberculosis and Arteriosclerosis.**—In Croner's 100 cases of diabetes, tuberculosis was noted in 47, either in the patient or his immediate family, and in 32 free from tuberculosis there were evidences of arteriosclerosis. He comments on the frequency of the coincidence of tuberculosis and diabetes in the same family or subject, and suggests that the development of diabetes in a person with a tuberculous inheritance may be regarded as a sign that the individual has escaped the danger of tuberculosis. The constantly progressive increase of diabetes may possibly have some connection with the decrease of tuberculosis. The well-to-do show the larger proportion of cases of diabetes and lesser of tuberculosis, while in the poorer classes there is more tuberculosis and less diabetes. In regard to alcoholism, he remarks that his experience has been that when associated with severe physical labor, as in the case of men driving beer wagons, stonecutters, etc., diabetes is very rarely entailed, while alcoholism in persons under nervous or mental strain is particularly liable to develop diabetes. In cases of associated diabetes and arteriosclerosis, the former may be due to some nutritional disturbance or irritation of the part of the brain involved in the sugar economy of the body. This view is sustained by the tendency to apoplexy frequently noticed in such cases. There may be absolutely nothing to indicate the participation of the pancreas in the morbid process, while everything suggests a cerebral origin. His detailed analysis of his cases can not be condensed into an abstract.

80. **Relations of Syphilis to Renal Surgery.**—Margulies adds a third to Israel's two cases in which syphilis simulated a surgical kidney affection. Israel removed the kidney in each of his cases, but Margulies recognized the syphilitic character of the lesions after exposing the kidney, and refrained from operating. The complete recovery of the patient after vigorous specific treatment confirmed the diagnosis. The palpation findings and the general appearance of the patient, a woman of 26, suggested a malignant tumor in the left kidney, but functional tests showed that it was working nearly normally, with no hematuria.

82. **Cystoscopic Findings in the Bladder in Case of Uterine Cancer.**—The findings in a number of cases described corroborate the assertions of other writers to the effect that papillary proliferations, nodules, flat elevations and ulcers in the bladder do not contraindicate total extirpation of the uterus for cancer. True carcinomatous infiltration and metastases are very rare and occur mostly at a very late stage.

Deutsche Zeitschrift f. Chirurgie, Leipsic.

Last indexed page 754.

85 (LXIX, No. 2-4.) *Perforating Gastric and Duodenal Ulcers. F. Brunner (Zurich).—Das akut in die freie Bauchhöhle perforierende Magen- und Duodenal-Geschwür.
86 *Zur Kenntnis des Tetanus traumaticus. Elsässer.
87 *Zur Kenntnis der Myositis infectiosa in Japan. Ito and Sinnaka.
88 *Male Urogenital Tuberculosis. Kraemer.—Ueber die Ausbreitung und Entstehungsweise der männlichen Urogenitaltuberkulose.
89 Dislocation of Metatarsus. Bannes.—Ueber Luxationen im Lisfrancschen Gelenk.
90 Fall von Luxatio pedis sub talo nach hinten und innen. Bertelsmann.
91 *Necrosis of Skull from Pressure of Bandage. Springer (Prague).—Schädel-Nekrose durch Verbanddruck.

85. **Perforating Ulcer in Stomach and Duodenum.**—Brunner has collected from the literature nearly 600 cases of acute perforation in which an operation was performed, and reviews the various details summarizing them in groups. Only 10 per cent. of the cases progressed to the perforation without symptoms suggesting the presence of an ulcer beforehand. Statistics show that 95 per cent. of the unoperated patients die and more than 50 per cent. within the first twenty-four hours. The gastric ulcers are located on the anterior wall in the proportion of 7 to 1 on the posterior, and nearer the cardia in the proportion of 5 to 3 near the pylorus. They are more frequent in the lesser curvature than in the greater, 122 to 16. The pain after perforation is generally correctly localized. Most of the perforations occurred during November, the fewest in July and August. His records show 265 perforations operated on in England and only 31 in Germany, 58 in America, 17 in Sweden, and 41 in France. In America, Switzerland and France the number of duodenal ulcers nearly

equals that of the gastric ulcers, but in general it is only one-fourth. The ulcer should be excised, and as promptly as possible. Only in the absolute impossibility of excision is it permissible to freshen the edges and suture the perforation. Brunner advises flushing the abdominal cavity with 40 per cent. salt solution when it is very much soiled. In recent cases the abdominal cavity can be entirely closed after thorough cleansing. The best results were obtained when the operation was performed during the first eight hours. The general results have been that one-third of the patients operated on have recovered. In a personal experience with 3 cases, one an ulcer of the stomach, with operation in four and one-half hours after the perforation, and an ulcer of the duodenum, with operation in six and one-half hours, both patients recovered. Another gastric ulcer was not operated on until the eighth hour and the patient succumbed. In 6 other cases in Switzerland in which intervention was not possible until the eighteenth hour none of the patients recovered. The monograph fills 133 pages.

86. **Traumatic Tetanus.**—Less than half of the 24 cases reported were seen before the second week after the accident. Ten of the patients recovered. The incubation was less than a week in a third of the cases. The treatment pursued at Berne is iodin, carbolic acid and the thermocautery for the wound, applied with great energy and as early as possible, immediate injection of serum, in particularly urgent cases directly into the brain or dura, narcotics in abundance and an injection every hour of 1 c.c. of a 3 per cent. solution of carbolic acid, supplemented by subcutaneous saline infusion, nutrient enemata and isolation of the patient in a quiet room.

87. **Myositis Infectiosa.**—Ito has observed 10 cases in Japan in which a benign cutaneous suppurative affection was followed by acute inflammation of the striated muscles. In every case except one, the inflammation progressed to abscess formation, requiring incision. The staphylococcus was isolated in each case. He regards the affection as hematogenic, similar to osteomyelitis, a "pure-culture pyemia."

88. **Origin and Mode of Propagation of Male Urogenital Tuberculosis.**—The experimental research described and the writers' clinical experience apparently establish that tuberculous infection always spreads in the direction of the outflowing secretions, never against the current. The prostate may become infected from the testicles, but the ureters and kidneys never from the bladder. This view is confirmed by the efficacy of extirpation of the testicles in case of tuberculous lesions in them, and also by the arrangement of the lesions in the kidneys and ureters, which always indicates a descending affection. The testicles and the kidneys are liable to infection through the blood or lymph or from congenital infection. The kidney process may spread to involve the ureter and bladder and the prostate, but not to the other kidney nor to the testicle. Tuberculous infection of the testicles from coitus is impossible according to Kraemer's views, as it would have to occur against the current of the secretions. He also excludes the possibility of direct propagation from one testicle to the other. When the second testicle becomes affected it is by the same mode of infection as the first, through the blood or lymph. Tuberculous lesions in the bladder, seminal vesicles and prostate almost invariably proceed from the kidneys or testicles, and this may occur even in the absence of lesions in these organs, or else they may be of independent origin, congenital or hematogenic.

91. **Necrosis of Skull Under Bandage.**—Subsequent to the removal of an angioma on a babe 13 months old, a band of dry gangrene developed on the skull, corresponding to the dressings, involving the skin and periosteum. The gangrenous tissues sloughed off and with them eight flat sheets of bone, some as long as 6 cm. Recovery was not complete until after thirteen months. The band of gangrene almost completely encircled the head, extending from side to side of the brow, and nearly its entire width. The patient presented an enteritis at the time the gangrene developed. The bandage was a "miter," stiffened with starch, and the decubitus developed in three days.

Zeitschrift f. Geb. und Gynäkologie, Stuttgart.

Last indexed page 1378.

92 (XLIX, No. 1.) *Unusual Causes for Repeated Interruption of Pregnancy. L. Kleinwächter.—Ueber wiederholte Schwangerschaftsunterbrechung seltener Aetiologie.
93 *Zur Therapie der Gynatresien. J. Halban (Vienna).
94 Adenomatous Proliferation of the Serosa in an Abdominal Cicatrix. R. Meyer (Berlin).—Ueber eine adenomatose Wucherung der Serosa in einer Bauchnarbe.
95 *Zur Aetiologie der Tubar-Gravidität. Micholitsch (Vienna).
96 Ueber Chorio-Epithelioma malignum. O. v. Franqué (Würzburg).
97 Study of Birth Mechanism. S. Gottschalk.—Zur Lehre vom Geburtsmechanismus.
98 *Composition of Blood in Pregnancy and Parturition. W. Zangemeister (Leipsic).—Die Beschaffenheit des Blutes in der Schwangerschaft und der Geburt.
99 Embryologic Study of Placenta in Case of Twins, etc. Schnell (Frankfurt).—Eine seltene Zwillingsplazenta, etc.

92. **Unusual Causes of Abortion.**—Kleinwächter found that laceration of the cervix was the cause of the habitual abortion in 2 out of his 11 cases. After the tears had been sutured there was no further disturbance from this cause. In 3 or 4 other cases the habitual abortion was due to relics of preceding inflammations in the pelvic peritoneum. In case of an exudate near the uterus conception seldom occurs and rarely proceeds to its normal termination. In 12 cases he noted habitual abortion as due to fibromata of the uterus, heart affections, diabetes mellitus, hydramnion and emphysema of the lungs, the latter once, the others in 2 to 4 cases each.

93. **Treatment of Gynatresia.**—Two cases with complete absence of any cervix were treated by Halban as follows: The first patient was a young woman presenting a hematometra. He made an opening into the fundus and placed the uterus in extreme anteversion, suturing the opening into the fundus in the roof of the vagina. He calls this intervention elytrohysterostomy. The patient menstruated thereafter regularly. The second patient was relieved of a hematoma in left round ligament and ovary, and a hematometra in a rudimentary accessory cornu. The more usual methods of treatment of gynatresia are reviewed.

95. **Etiology of Tubal Pregnancy.**—Anomalies were found in the tube in every one of 10 cases examined, and the nidation in the tube is explained by the irregularities or processes mechanically arresting the ovum.

98. **The Blood During Pregnancy.**—Zangemeister's research confirms the assertions of Nasse that the blood is hydremic during pregnancy. The plasm and the serum must be examined separately. The specific gravity, albuminoid content and molecular concentration are less than normal in the serum during pregnancy, while the proportion of chlorids is higher than at other times. The plasm seems to contain more water than under other conditions. The actual condition is that of a hydroplasmia instead of hydremia, although for certain reasons the latter name is preferable. He found the alkalinity of the blood rather diminished, the red corpuscles somewhat more concentrated than usual, as well as more numerous.

Riforma Medica, Palermo.

100 (XIX, No. 43.) Studii sperimentali e clinici sulla tubercolosi praticati nel corso dell' anno scolastico, 1902-1903. E. Maragliano (Genoa).
101 Surgical Treatment of Infected Wounds of Kidneys. F. Sorrentino.—L'intervento nelle ferite infette del rene.

Russkii Vratch, St. Petersburg.

Last indexed page 1057.

102 (No. 16.) *Contagiousness of Leprosy. D. F. Ryeshetillo.—Zarazitelna- li nervnaya lii pyatnisto-anestetitcheskaya forma prokazy?
103 O vulvo-vaginitis u dyetei (in children). V. Y. Dukelski. (Concluded.)
104 Principal Properties of Pancreatic Juice. L. B. Popelski.—Ob osnovnykh svoistvakh podzheludotchnago soka.
105 *Preservation of Anatomic Specimens. L. L. Heidenreich.—O naikutchshei zhidkosti dlya sokhraneniya anatom. preparatov.
106 (No. 17.) Radioscopy and Other Means of Differentiating Early Phases of Pulmonary Tuberculosis. D. I. Vyeryuzhski.—Roentgen'oscopiya i drugie sposoby raspoznavaniya bugortchatki legkikh.
107 *The Tuning Fork in Differential Diagnosis. F. N. Ivanhoff.—Ob oshtchushshtchneii peripherlei tyela ritmitcheskikh kolebanii. Znatchenie v raspoznavanii.
108 *Value of Copper Citrate in Ophthalmology. A. G. Krotoff. O dyestvii limonnokisloe myedi (cupri citrici) pri nyekotorykh glaznykh zabolyevaniakh.
109 (No. 18) *Ligation of Lower Third of Ulnar Artery. K. I. Susloff.—K. kazuistikye perevyazki loktevoi arterii v nizhnei 1/3 predpletchya.

110 New Form of Granular Degeneration of Striped Muscle Fibers. G. P. Zeleny.—Novy vid zernistago pererozhdeniya poperetchno-polosatykh myshetchnykh volokon.
111 *Concentrated Diphtheria Antitoxin. S. V. Korshun and others (Charkow).—O. prigotovlenii silnoi protivodiphtheriinoi syvorotki.
112 Micro-physiology of Lachrymal Gland. A. I. Voronoff.—K microphys. sleznoi zhelezny.
113 *Photospeculum dlya primyeneniya svyetolyetcheniya v gynecologii. I. I. Makavieff.
114 Treatment of Reflex Anuria. M. L. Kreps.—K lyetcheniyu t. naz. calculeznoi anurii.

102. **Contagiousness of Leprosy.**—Ryeshetillo thinks that the frequent finding of the lepra bacillus in the throat and nose of subjects with the maculo-anesthetic, the nervous form of leprosy, indicates that there can be no doubt as to the contagiousness of this form. Dehio has recently announced the contrary, but the frequent occurrence of this form in some members of a family while others exhibit the tubercular form is certainly significant.

105. **Fluid for Preservation of Anatomic Specimens.**—Heidenreich discusses the various preserving fluids in use, commenting on the fine appearance of the specimens exhibited at the last Paris exhibition which had been treated by the Riche-Godard technic. They had been soaked twenty-four to forty-eight hours in a fluid consisting of 150 parts formalin, by weight, 1,000 parts distilled water, 10 parts potassium nitrate and 30 parts potassium acetate. They were then drained and transferred to 80 per cent. alcohol for twelve, and then to 95 per cent. alcohol for two hours, after which they were placed in a mixture of 100 parts each of glycerin and distilled water and 30 parts potassium acetate. Equally fine results are obtained with the Melnikoff-Razvedenkoff technic, which includes a bleaching fluid, a mixture of 10 parts formalin, 100 parts water, .5 parts potassium chlorate and 3 parts potassium acetate. The specimens are then transferred to weak alcohol, gradually increasing the strength to 95 per cent. After a few days the color is restored by a bath fluid consisting of 30 parts potassium acetate, glycerin 60 parts and 100 parts water. Heidenreich has found a less expensive and simpler technic to be fully as effective. His method is based on the use of a cheap commercial embalming fluid, holzin, which is a combination of 3 parts formalin and 2 parts methyl alcohol. He used a mixture of 7 per cent. of this holzin in 2 parts of glycerin to 1 of water, to which was added 10 to 20 per cent. of chloral hydrate. A human hand, for example, treated by this technic retained its tints and aspect perfectly for several months exposed to the air in the warm laboratory, without a trace of decomposition. He therefore recommends this technic for general adoption on account of its simplicity and inexpensiveness.

107. **Tuning Fork in Diagnosis.**—Ivanoff proclaims that it is possible to utilize the tuning fork for percussion, and that the findings are more delicate and accurate than by the ordinary methods of percussion in vogue. He describes the theoretical grounds for this assertion, and also gives his experience. He first tried various stringed instruments, etc., but found nothing so well adapted for the purpose as the tuning fork, the handle placed on a flat or curved plate resting on the part to be examined. One of the vibrating prongs is then touched with the percussion hammer, and the vibrations imparted to the palm of the hand holding the hammer appeal to the muscle sense in a characteristic way, besides the information derived by the ear from the musical tone. This mode of percussion will be found useful in outlining certain organs, especially in cases in which ordinary percussion is contraindicated by hemorrhage or extreme sensitiveness to contact, and for children. The ear perceives the strength of the musical note, its pitch, the difference between the pitch as the tuning fork is moved, and the harmony or discord between the tones. The palm learns to perceive the strength of the vibrations, and also the pitch of the tone, and recognizes something analogous to harmony and discord in the regularity of the vibrations. Interfering overtones may be suppressed by damping the prongs at certain nodes, as he shows in 4 cuts.

108. **Copper Citrate in Ophthalmology.**—Krotoff has found a pencil of copper citrate a valuable means of treating certain eye affections, especially pannus. Only 4 out of 39 cases of pannus tenuis were not improved, and only 5 out of 17 with pannus crassus. Chronic conjunctivitis was not affected except in 1 out of 10 cases, and trachoma in only 3 out of 12. He has applied it in 109 ophthalmic cases.

109. **Ligation of Ulnar Artery.**—Susloff warns that an accessory muscle sometimes occurs abnormally in the forearm, and might interfere with ligation of the ulnar artery.

111. **Concentrated Diphtheria Antitoxin.**—Korshun's experiences demonstrated that small, frequently repeated injections of the diphtheria toxin were better tolerated by the horses and resulted in the production of a more concentrated serum than when larger amounts were used. Horses between the ages of 4 and 9 were the best subjects. By reducing the doses and repeating the injections every day they finally succeeded in producing an antitoxin that represented 1,000 units to the cubic centimeter. The local and general reaction bear no relation to the elaboration of the antitoxin, and, in fact, the latter proceeds better when the former are minimal.

113. **Phototherapy in Gynecology.**—Two instruments are described and illustrated devised for the purpose of applying the benefits of electric light treatment directly to the internal genitalia. The first is an incandescent lamp fitted in an ordinary glass speculum, designed for a current of 10 volts. The second apparatus is more complicated, and will bear a current of 50 volts. A continuous flow of water circulates around the lamp to prevent burning the parts. He reports 3 cases rapidly cured by the use of these instruments.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE MEDICAL NEWS VISITING LIST FOR 1904. Weekly (Dated for 30 Patients); Monthly (Undated, for 120 Patients per Month); Perpetual (Undated, for 30 Patients Weekly per Year); 60 Patients (Undated, for 60 Patients Weekly per Year). The Weekly, Monthly and 30-Patient Perpetual Contain 32 pages of Data and 160 Pages of Classified Blanks. The 60-Patient Perpetual Consists of 256 Pages of Blanks Alone. Bound in Flexible Leather, with Flap and Pocket, Pencil and Rubber and Calendar for Two Years. Price, $1.25. Thumb-letter Index, 25 cents extra. Philadelphia and New York: Lea Brothers & Co. 1903.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION. By Prof. Dr. Carl von Noorden, Physician in Chief to the City Hospital, Frankfurt a. M. Authorized American Edition Translated under the Direction of Boardman Reed, M.D., Professor of Diseases of the Gastro-intestinal Tract, Hygiene and Climatology, Department of Medicine, Temple College. Part IV. The Acid Autointoxications. By Prof. Dr. Carl von Noorden and Dr. Mohr. Cloth. Pp. 80. Price, 50 cents. New York: E. B. Treat & Co. 1903.

NORMAL HISTOLOGY. A Manual for Students and Physicians. By John R. Wathen, A.M., M.D., Professor of Surgery, etc., formerly Professor of Histology and Pathology, Kentucky School of Medicine, Louisville, Ky. 12mo. Pp. 220; 114 Illustrations. Cloth. Price, $1.00 net. Philadelphia and New York: Lea Brothers & Co. 1903.

INFECTION AND IMMUNITY, with Special Reference to the Prevention of Infectious Diseases. By George M. Sternberg, M.D., LL.D., Surgeon-General U. S. Army (retired), Ex-president of the American Medical Association. Cloth. Pp. 293. Price, $2.00. New York and London: G. P. Putnam's Sons. 1903.

INFECTIOUS DISEASES. Their Etiology, Diagnosis and Treatment. By G. H. Roger, Professor Extraordinary in the Faculty of Medicine of Paris, etc., Translated by M. S. Gabriel, M.D., New York. With 43 Illustrations. Pp. 864. Cloth. Price, $5.75 net. Philadelphia and New York: Lea Brothers & Co. 1903.

ANNUAL REPORT OF THE HEALTH DEPARTMENT OF THE CITY OF LOUISVILLE, KY., for the Fiscal Year Ending Aug. 31, 1903. M. K. Allen, M.D., Health Officer, Louisville. Paper. Pp. 77. Louisville: The Bradley & Gilbert Co. 1903.

CLINICAL TALKS ON MINOR SURGERY. By James G. Mumford, M.D., Assistant Visiting Surgeon to the Massachusetts General Hospital. Cloth. Pp. 115. Price, 75 cents. Boston: The Old Corner Bookstore.

THE WORTH OF WORDS. By Dr. Ralcy Husted Bell. With an Introduction by Dr. William Colby Cooper. Third Edition, Revised and Enlarged. Cloth. Pp. 307. Price, $1.25. New York: Hinds & Noble.

THE ANTISEPTIC AND GERMICIDAL PROPERTIES OF GLYCERIN. Hygienic Laboratory—Bulletin No. 16. By M. J. Rosenau. Paper. Pp. 30. Washington: Government Printing Office. 1903.

REPORT OF THE COMMISSIONER OF EDUCATION FOR THE YEAR 1902. Volume I. Cloth. Pp. 1176. Washington: Government Printing Office. 1903.

THE JOHNS HOPKINS HOSPITAL REPORTS Vol. XI. Nos. 1-9. Paper. Pp. 555. Baltimore: The Johns Hopkins Press. 1903.